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ANATOMY

Epitomized and *Illuſtrated:*

CONTAINING.

I. A conciſe and plain Deſcription of all the Parts of the HUMAN BODY; together with their various Uſes in the ANIMAL OECONOMY.

II. A large and choice Collection of SCULPTURES, exhibiting a *juſt Idea* of the FIGURE, SIZE, SITUATION, CONNECTION, and USES of the ſeveral Parts of the BODY, in Seventeen *Folio* COPPER-PLATES.

By *M. N.* B. A.

> *Etiam dudum obſervaveram, nihil gratius, vel utilius, fieri his, qui Actiones Corporis humani ſpeculantur, quàm ut penitus intelligant* mirandam ejus Fabricam. —— *Ideo dedi operam ut indicarem ubique* accuratiſſimas Tabulas, *in quibus* Auctorum *in his* principum *ſincera ſapientia* Corporis Structuram veriſſimè depinxerat.
>
> H. BOERHAAVE, *Præf. ad Inſtit. Med.*

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Anatomy

Anatomy Epitomiz'd:

BEING A

Conciſe DESCRIPTION of all the PARTS of a *HUMAN BODY.*

ANATOMY *defined.*

A*NATOMY* is an *artificial Diſſection* of an Animal Body; with a View to advance a true and adequate Science or Knowledge of the *Matter*, *Figure*, *Size*, *Situation*, *Connection*, and *Uſes* of the component Parts thereof; to ſatisfy the Purpoſes of *Phyſic*, *Surgery*, *Phyſiology*, and other Sciences which require an Acquaintance therewith.

Divided into Oſteology, Sarcology, Hygrology.

THIS Art is divided into three great Parts, *viz.* (1.) *OSTEOLOGY*, or the Doctrine of *Bones* in general. (2.) *SARCOLOGY*, which treats of all the *fleſhy Parts* of the Body. (3.) *HYGROLOGY*, which deſcribes the ſeveral *Fluids* or *Humours*, as the *Blood*, *Urine*, &c. in an animal Body.

Oſteology ſubdivided into Oſteogeny, Oſteography, Synoſteology.

OSTEOLOGY is again ſubdivided into three Branches. (1.) *OSTEOGENY*, which treats of the *Origin*, *Geneſis*, or *firſt Formation* of the *Bones*, as to the *Matter* and *Manner* thereof. (2.) *OSTEOGRAPHY*, which treats of the *Bones* and their ſeveral Parts, or the Knowledge of the Structure of the *Human Sceleton*. (3.) *SYNOSTEOLOGY*, which explains all thoſe Parts of a Bone, by means of which the various Articulations are effected, or Bones conjoin'd to Bones, in the whole Compages of the Sceleton.

Sarcology ſubdivided into Myology, Splanchnology, Angiology.

SARCOLOGY is alſo divided again into three principal Parts. (1.) *MYOLOGY*, or Doctrine of the *Muſcles*. (2.) *SPLANCHNOLOGY*, which treats of the various *Viſcera* or *Bowels*, and the great Organs of animal Life, as the *Brain*, *Lungs*, &c. (3.) *ANGIOLOGY*, which deſcribes the ſeveral Kinds of *Veſſels*, or *Vaſcular Parts* of the Body, as *Glands*, *Receptacles*, *Arteries*, *Veins*, &c. ſhewing their Nature and Uſes.

IN *HYGROLOGY* we make no Subdiviſion; and therefore ſhall return and begin our *ſhort Survey* of the Human Body with *OSTEOGENY*, the firſt Part of *OSTEOLOGY*; and which treats of the *Generation* of the Bones. In order to have a clear Underſtanding of which, 'tis neceſſary firſt to premiſe alſo the *Geneſis* of a *Fibre*, *Membrane*, and *Cartilage*, ſince they are the

Of Oſteogeny.

great Inſtruments concern'd in *Oſſification*; and of which (eſpecially *Fibres* and *Membranes)* the more compound Parts of the Body do conſiſt. Therefore

Of the Generation of Fibres

AMONG the Fluids in *Ovo*, there is (ſaith *Boerhaave)* a *peculiar, terreſtrial, nutritious, fluid* Matter; the Particles of which, ſoon after *Conception*, begin (by the *plaſtic Power* of Nature) to cohere, unite, and form themſelves into very fine *Capillaments* or *Threads*, which we afterwards call *Fibres*. Of theſe *Fibres*, ſome are, in their mature State, ſoft, flexible, and elaſtic; and are *hollow* or *ſpongeous*, as the *nervous* and *fleſhy* Fibres; ſome are *ſolid*, *flexible*, and *very ſpringy*, as the *membranous* and *cartilaginous* Fibres; and others are hard and inflexible, as thoſe in the Bones. And of all theſe ſome are *ſenſible*, others *inſenſible*; ſome *viſible*, others *imperceptible*; ſome *ſimple*, of which others are *compounded*.

The Original of Membranes.

THE Fibres thus form'd ſtrike into various Directions, according to the Nature and deſign'd Form of the Part; and being thus interwoven in manner of a very fine *Web*, they conſtitute a thin, white, broad, elaſtic Subſtance, which we call a *Membrane*; they are compoſed of *nervous Fibres*, which give them an *elaſtic Power* and an *exquiſite Senſe*, which make their *Contractions*.

The Geneſis of Cartilages.

WHEN Membranes, conſiſting of a proper Species of *Fibres*, become hard and dry, by the gradual *Coaleſcing* and *Concretion* of the *vaſcular Fibres*, they degenerate into an hard, thin, white, elaſtic Subſtance, called a *Cartilage*; which are ſupplied with *Blood Veſſels*, and very probably with *Nerves*, and therefore are not altogether deſtitute of all manner of *Senſation*, as ſome ſuppoſe. They cover the Ends of the Bones, and thus adapt them for Articulation and Motion without Pain or Difficulty, by means of their great Smoothneſs or *Lubricity*, and *obtuſe Senſation.*

Of a Ligament. A *LIGAMENT* is a white ſolid Body, *harder* than a *Membrane*, and *ſofter* than a *Cartilage*; they conſiſt of a Bundle of *inſenſible Fibres*, and their chief Uſe is to faſten the Bones in Articulation.

Of the Compoſition of the Parts of the Body. SUCH are the *Rudiments* of the Body originally; for as of *Fibres* are made the ſeveral *Membranes*, *Cartilages*, and *Ligaments*, ſo of ſome or more of theſe conveniently diſpoſed, reſults the Syſtem of *Nerves*, *Veins*, *Arteries*, *Muſcles*, and *Bones*. Laſtly, from the various *Texture* and different *Combinations* of ſome or all of theſe Parts, the more *compound Organs* are fram'd; ſuch as the *Brain*, *Eyes*, *Lungs*, *Stomach*, *Liver*, *Legs*, *Arms*, &c. the Sum of all which make up the Body.

The Generation of the Bones. BUT the *Generation of the Bones* is the thing more particularly here intended; concerning which an * ingenious and ſkilful Anatomiſt, from divers Experiments, has lately

* *Dr.* Neſbitt, *in his Oſteogeny*

lately oblig'd the World with a *new and curious Theory*, exploding the old one at the ſame time, *viz. That All Bones are form'd from Cartilages.* I ſhall only mention, in a few Words, the Subſtance of his new *Theory of Oſſification*, and refer the Reader to his *learned Lectures* for the Grounds and Confirmation thereof.

Of the two Species of Oſſification.

THIS *Theory* makes *two Species of Oſſification*; for, as was before obſerved, all Bones do originally conſiſt of *Membranes*, and *cretaceous* or *bony Particles* or *Corpuſcles*, ſo as that the former only ſurround and keep together the latter: And therefore when theſe *bony* Particles are firſt ſecreted from the Blood, they begin to be depoſited, or to ſhoot, either, (1.) *Between Membranes*; or, (2.) *Within Cartilages.* And hence ariſes the aforeſaid twofold Doctrine of *Oſteogeny*.

The firſt Species of Oſſification.

THOSE which ſhoot between Membranes form moſt of the hardeſt and moſt ſolid of the *Fœtal* Bones, and appear firſt of all. The *Texture* of this *Species of Oſſification* is found, by a careful and proper Examination, to be of ſmall Particles, ſo conjoin'd together, as to form *fine bony Threads or Fibres*, which are differently diſpoſed in various Directions conformable to the deſign'd Figure of each future Bone, and its ſeveral Parts. This is viſible in thin broad Bones, as thoſe of the Scull, about 10 or 12 Weeks after Conception; when the beginning of an *Oſſification* has the *Appearance of an exceeding*

ing fine and irregular Piece of Network, the Middle of which is much cloſer and finer than the Circumference, and is ſo thin, that without great Care it can't be taken from between the Membranes which cover it.

PLATE I. Fig. VI. IN Subjects a little older, theſe *Bony Particles* become gradually increas'd, and ſo conjoin'd, as to produce an Appearance of *ſmall, fine, bony Threads or Fibres*, which then appear a little like *Radii* ſhooting from a Center. All the ſmall *Furrows* or *Vacancies* between theſe *Fibres*, have, by Injections, been demonſtrated to be only *Paſſages* for *Blood-Veſſels.* And as the *Fœtus* grows bigger, the *Bony* Fibres increaſe, condenſe, and become attracted or preſs'd ſo cloſe together, as to admit no more new *Matter* to be depoſited between them. Thus a ſingle *Lamina*, or Plate, of this ſort of Bone is produced.

As the Bone continues to grow and increaſe in Size every way, many *Strata* or Layers of ſimilar Plates are, by the *Bony* Fibres ſhooting on one another in the manner juſt deſcrib'd, gradually generated; by which the more ſolid Part of a Bone is form'd. It is obſervable that the inner *Laminæ* are *leſs ſolid* and *more porous* than the exterior; and none attain their *perfect Solidity* till the Part has done growing in Bulk.

AFTER much the ſame manner the *Laminæ* are form'd, of which the more ſolid Part of *Cylindrical Bones* are made up. Their

Oſſifications begin while the Circumference of the Part is not greater than a ſmall Pin, in the Form of *a broad flat Ring* between the internal and external *Perioſteum.* As theſe Rings increaſe in Breadth, their Fibres ſhoot towards both Extremities of the Part, not always in ſtrait Lines, but according to the particular and deſign'd Figure of the Bone.

PLATE I. Fig. XXV.

WHAT ſeems in perfect *Bony Laminæ* to be Pores, are Paſſages for Blood-Veſſels; and the *cellular* or *cavernous* Parts of Bones, or *Meditullium,* are Receptacles for the *Folliculi,* or ſmall Bags of Marrow; to the Intervention of which, the Cells or Caverns owe their Formation.

The ſecond Species of Oſſification.

THE ſecond Species of *Oſſification* is that which begins within a Cartilage: This appears late, and at very diſtant Times, in different Parts. Its ſooneſt Appearance, which is either in the *Oſſa Illi,* or ſome of the *Vertebræ,* is not till about two Months after Conception; and when lateſt, not till many Years after Birth. The *Oſſification* here begins from a Point, and gradually increaſes to a conſiderable Body, in ſmall Spines; tho' in other Parts where the *Oſſifications* are not finiſh'd in ſome Years, the *Bony* Particles appear to be depoſited frequently in various Parts of the *Cartilage,* in diſtinct Cluſters irregularly ſituated; all which afterwards perfectly unite.

IN the *Cartilages* of almoſt full-grown *Fœtus's,* in which are found any *Oſſifications*

Plate I. Fig. xxvi, xxvii, xxviii, xxix, xxx, xxxi.

beginning, or *Tendencies* thereto, not one *Bony Particle* is to be perceiv'd or felt, in any Part, before there is a viſible Influx into the *Cartilage* of a Fluid, different from what uſed to flow thro' them: And many of thoſe Veſſels, which while the Part continued totally cartilaginous, without a Tendency to *oſſify*, were too fine to be diſtinguiſhed or perceived by the beſt *Microſcopes*, and conſequently too ſmall to admit the red Globules of Blood, appear to have been, by a more than uſual Afflux of Fluid, ſo much dilated as to receive a Quantity of red Globules ſufficient to render ſome Part of them diſtinctly viſible to the naked Eye, and to cauſe the Appearance of an Inflammation about the Part where the *Oſſification* is to begin, and round it always when juſt begun to be apparent, and frequently after it is conſiderably increaſed.

The firſt ſmall *Corpuſcles* of Bone that become viſible, are always in that Part of the Cartilage which has the greateſt Quantity of *red Fluid*; they are not always placed cloſe together, but frequently at ſmall Diſtances from each other; and theſe *Bony Particles* are often to be felt with the Point of a Knife in ſome Veſſels much dilated and full of Blood, or a ſimilar Fluid. Yea, if the Cartilage be ſlit into thin Pieces, and dry'd between two Planes of Glaſs, there may, with the naked Eye, but better with a *Microſcope*, be ſeen the Appearances of theſe

Bony Particles, or ſomewhat analogous to them.

MOST of the Bones thus generated within Cartilages, are very *ſpongy* and *cellular*; the Size and Figure of the Cells being regulated by the *medullary* and *veſicular* Subſtances contained within them; and their external and more ſolid Parts are compoſed of *Bony Threads*, diſpoſed according to the Shape of the Part.

VERY ſoon after the Parts, which remain not long after Conception wholly cartilaginous, begin to oſſify, their Increaſe is manifeſtly more from the *Accretion* of the *Bony Corpuſcles*, than from the *Subſtance* of the *Cartilage*, according to the Notion hitherto erroneouſly received. Yea, the Independency of *Fœtal Bones* on the Cartilages is eaſily made apparent, if any of them, while the Cartilages ſurround the Bone, be kept a ſufficient time in Water; for then, upon ſlitting the Cartilage, the Bones will, when the large Veſſels are divided, as eaſily ſlip out of it, *as an Acorn out of its Cup*, when ripe. And by the Smoothneſs and Poliſh of the Parts both of *Bone* and *Cartilage*, which were in Contact, it is very manifeſt there could be no Intermixture of their Particles, nor Continuation of the Fibres of one Subſtance to thoſe of the other; and indeed a bare View of the different colour'd and *heterogeneous Particles* which make the two *immediate* and *contiguous* Surfaces of Bone and

PLATE I. Fig. XXXII.

and Cartilage, is enough to convince any one, who rightly conſiders the Matter, that this new Doctrine of *Oſteogeny*, in both the *Species* of *Oſſification*, is *more than probably true.*

THIS excellent Author, in his ſecond Lecture, in a moſt obſervable Manner, ſets forth the gradual Proceſs of Nature in the Production of the Bones in the ſeveral Parts of the Body, and points out the ſeveral *Intervals* of Time from *Conception*, wherein ſhe *begins*, *continues*, and *finiſhes* this admirable Part of her Handywork; which therefore can't but be highly agreeable to all who have any Concern to know how *fearfully and wonderfully they are made* in theſe Reſpects, and to which they are referr'd as the only Piece worthy their Peruſal on this Subject.

Of Oſteography.

OSTEOGRAPHY is the ſecond Part of *Oſteology*, and teaches the Knowledge of the *Fabrick* and *Compages* of an human Sceleton in the human Anatomy.

A Sceleton defined.

A *SCELETON* is the whole *Syſtem* of Bones of an Animal Body, clear'd of their Fleſh, and join'd together in the Order and Manner as they exiſted naturally in the Body.

I SHALL here give a ſuccinct Account of all the conſiderable Bones in every Part of a human Sceleton. And firſt I ſhall begin with a Deſcription of the Bones of the Head.

The Bones of the Scull.

THE Bones of the Scull, or *Cranium*, are *ſix proper*, and *two common* to it and the

Upper Jaw. The Bones proper to the *Cranium* are, (1.) The *Os Frontis*, or Forehead-Bone, which is of a roundiſh Form, and makes the Fore-part of the Scull, and has four *Apophyſes* at the four Angles of the two Orbits of the Eyes, and is perforated with two Holes above the Orbits, through which paſs a Vein, Artery, and ſome Twigs of the firſt Branch of the fifth Pair of Nerves. *Os Frontis.* (2.) and (3.) The two Bones of the *Sinciput*, call'd *Parietalia*, being, as it were, the *Side Walls* of the *Cranium*, one on each Side. *Oſſa Parietalia, or Bones of the Sinciput.* They are the thinneſt Bones of the Scull, are almoſt ſquare, and ſomewhat long; are join'd to each other in the Crown of the Head; and to the other Bones, in other Parts: They have a ſmall Hole near the Top of the Head, for the Paſſage of the Veins, *&c.* (4.) and (5.) The *Oſſa Temporum*, or two Bones of the *Temples*, ſituated in the lower Part of the Sides of the Scull: *Oſſa Temporum, or Bones of the Temples.* They are ſmall, and of a circular Figure, are thin on the upper, but thick on the lower Part; which, being very hard, is call'd alſo the *Os Petroſum*, or *Stony Bone.* They have each *three external* Proceſſes, *viz.* the *Zygomatic*, *Maſtoid*, and *Styliform* Proceſs; and *one internal* one, which, being pretty long and big, contains all the *Mechaniſm* of the internal Ear. They have each two internal and four external Holes, the former for the Egreſs of Nerves, the latter for the Purpoſes of Hearing and other Uſes. (6.) The *Os Occipitis*, or Bone *Os Occipitis.*

of the hinder Part of the Head; it is in Form like a *Lozenge*, with its lower Angle turn'd inwards; it is thicker than the other Bones of the Scull, is externally rough, and internally it has two *Sinus's*, in which lie the two Protuberances of the *Cerebellum*; it has ſeven Holes, through the largeſt of which the *Spinal Marrow* paſſes to the Back-bone, and the reſt ſerve for the Paſſages of *Arteries*, *Veins*, and *Nerves*. This Bone has alſo two *Apophyſes*, one on each Side the great Hole; they are lined with a *Cartilage*, and articulated with the firſt *Vertebra* of the Neck, and is longer in *Beaſts* than in Men.

Os Sphænoides. THE two Bones *common* to the *Scull* and the *Upper Jaw*, are, (1.) The *Os Sphænoides*, or *Cuneiforme*, the Wedge-like Bone, tho' it be of a very irregular Form; it is ſituated in the Middle of the Baſis of the Scull, and join'd to all the Bones thereof by the *Sphænoidal Suture*, except in the Middle of its Sides, where it is continued to the *Oſſa Petroſa*, as if they were one Bone. On its Outſide it has five *Apophyſes*, and on its Inſide four, ſerving to various Uſes: It has twelve Holes for the Exit of ſeveral Pairs and Branches of Nerves, and the Entrance of Arteries, as the *Carotidales*, and thoſe of the *Dura Mater*. (2.) The *Os Ethmoides*, *Cribriforme*, or Sieve-like Bone; it is alſo call'd *Os Spongioſum*, or ſpongy Bone, becauſe it is perforated by a Number of ſmall Holes, through which paſs the Fibres of the

Os Ethmoides, or Cribriforme

Olfactory Nerve to the Noſe:. It is ſituated in the Middle of the Baſis of the *Os Frontis*; from its under Side goes a thin Bone which divides the *Cavity* of the *Noſe* into two *Noſtrils.* On each Side this Partition are ſeveral thin ſpongeous Subſtances, ſerving to the Uſe of *Smelling*; and the *Secretion* of *Pituitous Matter* from the Brain, is reckoned a *ſecondary Uſe* of this Bone.

Its Uſe.

The Bones of the *Upper Jaw* come next to be conſidered in the *Sceleton.* They which are proper to it are *eleven*, five on each Side, and one in the Middle. (1.) The firſt is the *Os Mali*, or *Zygoma*; it is of a triangular Figure; its upper Side makes the lower and external Part of the Circumference of the Orbit of the Eye; it is concave within, and, projecting forwards, makes the higheſt Part of the Cheek. (2.) The *Os Maxillare*, or *Jaw-Bone*; in it all the Teeth of the Upper Jaw are ſet; its Form is very irregular, and its upper Side makes the lower and internal Part of the Orbit of the Eye. This Pair of Bones makes the fore and greateſt Part of the Roof of the Mouth. (3.) The *Os Unguis*; it is a little thin Bone which lies in the great Angle of the Orbit, and has a Hole in which the *Lachrymal* Bag lies; and thence is ſometimes call'd *Os Lachrymale.* (4.) The *Os Naſi*, or *Bone of the Noſe*; it is thin, but ſolid, and makes the upper Part of the Noſe; upon its lower End the *Cartilages* of the Noſtrils are faſten'd; it is ſmooth without, but

Of the Bones of the Upper Jaw.

Os Mali, or Zygoma.

Os Maxillare, or Jaw-Bone.

Os Unguis.

Os Naſi, or of the Noſe.

but rough within. (5.) The *Os Palati*, or the *Bone* of the *Palate*; it is ſmall and almoſt ſquare, and makes the hinder Part of the Roof of the Mouth. (6.) The odd and laſt Bone is call'd the *Vomer*; it is ſituated in the Middle of the lower Part of the Noſe, and in a Cleft, in its upper Side, it receives the *Septum Naſi*.

Os Palati, or of the Palate.

The Vomer.

Of the Bone of the Lower Jaw.

THE *Lower Jaw* conſiſts but of one Bone, in which the Teeth are ſet, and in Children is not perfectly hard till they are about two Years old: It is articulated into the *Sinus* of the *Os Petroſum*; it is perforated by four Holes, through which paſs *Veins*, *Arteries*, and *Nerves*, for their deſtin'd Uſes.

The Make of the Bones of the Cranium.

THE Bones of the *Scull* and *Jaws* do all conſiſt of two *Laminæ*, or Plates, between which there is a thin and ſpongeous Subſtance made of ſome *Bony Fibres*, which come from each *Lamina*, which in Greek is call'd *Diploe*, in Latin *Meditullium*; in it there are a great many Veins and Arteries which bring Blood for Nouriſhment.

Diploe, or Meditullium, what.

Of the Teeth and their Formation.

THE *Teeth* come next to be conſider'd: They are the hardeſt, whiteſt, and ſmootheſt Bones of the Body; they are form'd in the Cavities of the Jaws, which are lined with a thin Membrane, upon which there are ſeveral Veſſels, through which paſſes a *thick, viſcous, tranſparent Humour*, which, as it increaſes, hardens in the Form of *Teeth*, which is about the ſeventh or eighth Month after Birth, when they begin to pierce the

Jaw and Gums with very ſenſible Pain. The Teeth are ſometimes 14, ſometimes 15, and ſometimes 16 in Number in each Jaw. They are of three Sorts, which appear at different Times. (1.) The firſt are call'd the *Inciſivi*, or *Cutting Teeth*, which are the four foremoſt in each Jaw; they appear firſt, as being thinneſt and ſharpeſt; they are each inſerted with a deep ſingle and pointed Root. (2.) The next Sort are call'd *Canini*, or *Dog Teeth*; ſo call'd becauſe round and pointed like the Teeth of Dogs; they are two in each Jaw, and one on each Side the *Inciſivi*; they are deeply inſerted in the Jaw by a ſingle Root. (3.) The laſt Sort are call'd the *Molares*, or *Grinders*, becauſe with them we (as it were) *grind* the Aliments very ſmall, which were only cut and groſsly divided by the other; theſe come laſt of all, and have two, three, or four Roots ſeparately inſerted.

The Number of the Teeth.

There are three Kinds.

Inciſivi, or Cutting Teeth.

Canini, or Dog Teeth.

Molares, or Grinders.

FROM the Scull we deſcend to view the *Spine*, or *Back-Bone* in the *Sceleton*. The *Spine* is that Chain of Bones which reaches from the *Os Occipitis* to the *Os Coccygis*, in the Seat of the Body. Theſe Bones are call'd *Vertebræ*. In each *Vertebra*, the *Body* thereof and the *Proceſſes* are to be conſider'd. The *Body* of the *Vertebra* is on the Fore-part round and convex, and on the Hinder-part a little concave; it is ſofter and more ſpongeous than the *Proceſſes*, which are harder and more ſolid: Its upper and lower Sides

Of the Spine and Vertebræ.

Of the Body of the Vertebra.

are plain and cover'd with a *Cartilage*, which is thick forwards, and thinner backwards, for the eaſy bending of the Body forwards.

Of the Proceſſes of the Vertebra.

The *Proceſſes* of each *Vertebra* are of three Sorts, (1.) Two *tranſverſe* or *lateral*, one on each Side; in each of them there is a Tendon of the *Vertebral Muſcles* inſerted. (2.) Four *Oblique Proceſſes*, two on the upper Part, and the ſame on the lower; by theſe the *Vertebræ* are articulated one to another. (3.) And one *Acute* on the hindmoſt Part of the *Vertebra*. The *Proceſſes* with the concave Part of the Body of the *Vertebræ*, form a large Hole in the Body of each *Vertebra*; and all theſe Holes anſwering one another, make a Chanel for the Deſcent of the *Medulla Spinalis*, or *Spinal Marrow*, which ſends out its Nerves to the ſeveral Parts of the Body by Pairs, through two ſmall Holes between each ſuperior and inferior *Vertebra*. The *Vertebræ* of the Neck differ ſomewhat in Form from thoſe of the Back now deſcrib'd. All the *Vertebræ* are tied together by a hard Membrane made of ſtrong and large Fibres. The *Vertebræ* are twenty-four in Number; ſeven of the Neck, twelve of the Back, and five of the Loins; beſides thoſe of the *Os Sacrum*.

The Chanel for the Paſſage of the Spinal Marrow.

The Vertebræ not uniform.

Their Number.

Of the Os Sacrum.

The *Vertebræ* of the *Os Sacrum* grow ſo cloſe together in *Adults*, that they make but one large, broad, and ſolid Bone, in Form of an *Iſoſceles Triangle*, whoſe Baſis is tied to the laſt *Vertebra* of the Loins, the Upper-part of its Sides to the *Iliac Bone*, and its Point to the *Os Coccygis*. It has five Holes on each Side, but the Nerves paſs only thro' the five on the Fore-ſide.

Of the Os Coccygis.

THE *Os Coccygis*, or *Cuckow Bone*, (as ſomewhat reſembling a *Cuckow's Bill*) is joined to the Extremity of the *Os Sacrum*. It conſiſts of three or four Bones, of which the lower are leſs than the upper, till the laſt ends in a ſmall *Cartilage*; and, turning a little inwards, it ſuſtains the Strait-Gut.

THE *Oſſa Innominata*, or *Nameleſs Bones*, are two large Bones ſituated on each Side the *Os Sacrum*. In a *Fœtus* they conſiſt of three Parts, which in *Adults* unite, and make but one Bone. The ſuperior Part of which is call'd the *Os Ilium* (vulgarly the *Hip-Bone*) its Figure is nearly Semi-circular, a little convex without, and concave within, and is conſiderably larger in *Women* than in *Men*, for the ſake of Child-bearing.

Of the Os Ilium.

Of the Os Pubis.

THE ſecond Part is call'd the *Os Pubis*, and is that which turns over before, and uniting with its Fellow of the other Side by an intervening *Cartilage*, forms the Fore-part of the *Pelvis* or *Baſon*, of which the *Os Sacrum* is the Back-part, and the *Ilia* the Sides. In the Cavity of this Baſon are contained the Bladder, Womb, and Inteſtines.

The Pelvis, or Baſon.

Of the Os Iſchium, or the Coxendix.

THE third and laſt Part is call'd the *Os Iſchium*, or *Coxendix*; it has a large Cavity call'd *Acetabulum Coxendicis*, which receives the Head of the Thigh-Bone; it has a large *Foramen*, or Hole; and at its lower End a large Protuberance, upon which we ſit, and from whence the Muſcles which bend the Leg ariſe.

Of the Ribs.

Their Number.

Two Kinds, true and falſe Ribs.

The Thorax what.

From the *Pelvis* we re-aſcend to the *Cheſt* of the *Sceleton*, which is made by the Curvature of the *Ribs*. The *Ribs* are twenty-four in Number, twelve on each Side, articulated to the twelve *Vertebræ* of the Back; they are nearly circular, and grow flat and broad as they approach forwards to the *Os Sternum*, or *Breaſt-Bone*, into which moſt of them are inſerted by a cartilaginous Extremity, and in an oblique Manner. The Ribs have each a ſmall Canal or *Sinus* on their under Sides, in which lie a *Nerve*, *Vein*, and *Artery*. Thoſe Ribs (*viz.* the ſeven upper ones) which are faſten'd to the *Sternum*, are call'd *Coſtæ Veræ*, or *True Ribs*; the other five are call'd *Falſæ*, or *Spurious Ribs*; becauſe they are ſhorter and ſofter, and have their cartilaginous Ends annexed to each other below, thereby leaving greater Space for the Dilatation of the Stomach and Entrails. This *Cavity* of the *Breaſt* is call'd the *Thorax*.

Of the Os Sternum, or Breaſt-Bone.

The *Sternum*, or *Breaſt-Bone*, is ſituated in the Middle of the Breaſt; it is compoſed of *ſeven or eight Bones* in *Infants*, which at firſt are cartilaginous, but oſſify and unite into *three Bones* after the ſeventh Year of

Age; the Subſtance of which is ſomewhat *ſpongeous.* The upper Bone receives the Heads of the *Claviculæ*, or *Collar-Bones*; along the Sides of the ſecond, are inſerted the griſtly Ends of the Ribs; the laſt or loweſt Bone receives the Extremities of the laſt *true Ribs*, and terminates in a *Cartilage* call'd *Xiphoides*, or *Enſiformis*, from its Reſemblance of a Sword, though little. It is broad, hard, and pretty thick; and ſerves as a *Breaſt-Plate of Defence* to the Heart, and to ſuſtain the Ribs.

Cartilago Enſiformis.

Of the Claviculæ, or Chanel Bones.

THE *Claviculæ*, or *Chanel-Bones*, are two; ſituated at the Baſis of the Neck, above the Breaſt, one on each Side; they are pretty long, and ſmall; their Subſtance ſomewhat ſpongeous; they are articulated to the *Sternum* at one End, and to the Production of the *Scapula*, call'd *Acromion*, at the other; and their Uſe is to ſuſtain the *Scapulæ*, and to keep them at a due Diſtance from the *Sternum*.

Their Uſe.

Of the Scapulæ, or Shoulder Blades.

THE *Scapulæ*, or *Shoulder-Blades*, are two large and broad Bones, in Form of a ſcalenous Triangle, ſituated on the upper and back Part of the *Thorax*. Their Subſtance is thin, but ſolid and firm; ſomewhat convex on the Outſide, and concave on the Inſide; its Uſe is to receive the Extremities of the *Claviculæ* and *Humerus*, the firſt in that Proceſs call'd the *Acromion*, the latter in that call'd the *Cervix*; the *Scapulæ* alſo

Their Uſe.

give riſe to various Muſcles which move the Arm.

Of the Bones of the Arm and Hand.

The Humerus, or Shoulder-Bone.

THE Bones of the *Arm* and *Hand* are as follow: (1.) The *Humerus*, or *Shoulder-Bone*, which is long and round; its Subſtance pretty ſolid and compact; it has a conſiderable Cavity containing the *Marrow.* At its upper End it has a round Head, which is receiv'd into the Cavity of the Neck of the *Scapula*; the lower End is thinner and broader than the other, and hath two Protuberances, which make an Articulation (call'd the *Elbow)* with the two Bones of the lower Part of the Arm, which is call'd the *Cubitus.* Theſe Bones are, (2.) The *Ulna*, or *Ell*; and, (3.) *Radius*, or *Spoke-like Bone*; they reach from the *Elbow* to the *Wriſt.* The *Ulna* is a long hard Bone, with a Cavity in the Middle; it is biggeſt at the upper End, and grows leſs to the lower End. It lies on the Inſide of the *Arm*, if the *Palm* be turn'd upwards, and ſtays the fore Arm or *Cubit*, when it comes ſtrait with the *Arm.* The *Radius* is the outer Bone of the *Cubit*, of a roundiſh Form, but an uneven Bigneſs, being bigger near its lower End than its upper. And though the *Ulna* and *Radius* accompany one another, yet they touch not but at their Extremities. The *Humerus* is principally articulated to the upper End of the *Ulna*, but on the lower End of the *Radius*, the Hand is articulated; which is the Reaſon why

The Elbow.

The Cubit.

The Ulna.

The Radius.

thoſe Bones are alternately biggeſt in thoſe Parts. (4.) The *Carpus*, or *Wriſt*, conſiſts of eight little Bones, of a different Figure and Bigneſs. They are placed in two Ranks, and are ſtrongly tied together by the *Radial Ligaments*, and particularly by the *Annulary Ligament*, through which the Tendons which move the Fingers paſs. (5.) The *Metacarpus*, or *Back of the Hand*, is made up of five Bones, including that belonging to the *Thumb*, which anſwer to the *Fingers*; they are round, long, but ſomewhat concave and plain towards the Palm of the Hand; they are hollow, and contain Marrow, and touch only at the Extremities; they receive the Bones of the *Wriſt*, and are receiv'd by (6.) The Bones of the Fingers and Thumb, which are in Number fourteen in each Hand, *viz.* three to each Finger, and two to each Thumb. They are a little convex and round towards the Back of the Hand, and hollow and plain beneath, except the laſt, on which the Nails are. The Order in which they are diſpos'd, is call'd the *firſt*, *ſecond*, and *third Phalanx*; the firſt is longer than the ſecond, and that than the third. Beſides theſe, there are, (7.) The *Oſſa Seſamoidea*, or ſmall Bones, the Grains of *Seſamum*; they are reckon'd about twelve in each Hand, and are placed at the Joints of the Fingers, under the Tendons, to vhich they ſerve as ſo many Pulleys.

The Carpus, or Wriſt.

The Metacarpus.

The Bones of the Fingers.

And their Order, or Phalanges.

The Oſſa Seſamoidea.

The Bones of the Thigh. THE Bones of the *Thigh*, *Leg*, and *Feet*, are like to thoſe in the *Arm*, *Cubit*, and *Hands*, both in Figure and Number. They are as follow: *The Thigh-Bone.* *(1.)* The *Thigh* hath only one Bone, the longeſt in the Body; its Fibres are cloſe and hard; it has a *Cavity* in the Middle; is roundiſh, and bends a little outward. At its *upper End* it is articulated into the Cavity of the *Coxendix*, by a Neck which makes an Angle with the Bone inwards, by which Means the Thighs and Feet are kept at a neceſſary Diſtance, and we ſtand much firmer, the *Line of Propenſion* playing in a larger Space. At its lower End it is articulated with the Bone of the Leg, by two Heads or Protuberances. This *The Knee.* Articulation makes the *Knee*, in which there *The Patella, or Knee-Pan.* is, *(2.)* The little Bone call'd *Patella*, or *Knee-Pan*, which is of a round and flattiſh Form; ſoft in *Children*, but hard in *Adults*; a little convex on both Sides. Over it paſs the Tendons of Muſcles which bend the *Its Uſe.* Leg, whoſe Motion (like a Pulley) it facilitates, by removing their Direction farther from the Center of Motion. *(3.)* In the Leg are two Bones, the inner and biggeſt is *The Tibia.* call'd *Tibia*; 'tis hard and firm, with a Cavity in the Middle; its fore and ſharp Part is called the *Shin*. The outer and leſſer *The Perone, or Fibula.* Bone is call'd, *(4.)* The *Perone*, or *Fibula*; and though it be ſmaller than the *Tibia*, yet 'tis as long; it lies on the Outſide of the Leg, and touches not the *Tibia* but at the

Extremities, where it is articulated thereto; the Proceſs at the lower End of the *Fibula* makes the *outer Ancle*, as that of the *Tibia* makes the *inner Ancle*. *(5.)* The Bones of the *Tarſus*, or *Inſtep*, are ſeven; the *Talus* or *Aſtragalus*, the *Os Calcis* or *Heel-Bone*, the *Os Naviculare*, the three *Oſſa Cuneiformia* or *Wedge-like Bones*, and the *Os Cubiforme* or *Cube-like Bone*: All which are wonderfully contrived and adapted for proper Motion and Walking. *(6.)* The *Metatarſus*, or *upper continued Part of the Foot*, has five Bones, all like thoſe of the *Metacarpus*, and are articulated into *(7.)* The Bones of the Toes, which are in all fourteen, the Great Toe having two, the reſt three a-piece; they are like the Bones of the Fingers, only ſhorter. In the Toes alſo are ſometimes found twelve *Oſſa Seſamoidea*.

The Ancles.

Bones of the Tarſus, or Inſtep.

Of the Metatarſus, or Foot.

Of the Toes.

SYNOSTEOLOGY, or *SYNOSTEOGRAPHY*, the third and laſt great Part of *Oſteology*, treateth of the Parts of a Bone, and the ſeveral Kinds of Articulation. In particular Bones then we obſerve the following Things: *(1.)* That ſome are *hollow*, and contain an oleaginous Subſtance, call'd *Marrow*, whoſe Uſe is to ſupple the Fibres of the Bone, that they break not through Dryneſs. *(2.)* On the external Surface of Bones are ſeveral *Cavities* at the Extremities, for Articulation; theſe are of two ſorts; the firſt are narrow and ſhallow, and call'd *Glene*. Tho other ſort are wide and deep, and

Of Synoſteology, or Synoſteography.

Of the Marrow of Bones, and its Uſe.

Of the Cavities, Glene and Cotyle.

The Prominencies, Apophyſis and Epiphyſis.

and are call'd *Cotyle.* (3.) The Prominencies, or Protuberancies of the Bones, are alſo of two ſorts, *viz.* *Apophyſis* and *Epiphyſis.* The *Apophyſis* is a *Proceſs* made by the Fibres of the Bone; an *Epiphyſis* is a Protuberance made by a ſmall Bone ſet upon the Extremity of a bigger Bone, which at length unite into one. (4.) The Body of Bones (except the *Teeth*) are all cover'd with a thin, but cloſe and ſtrong Membrane, call'd *Perioſteum*, which has an exquiſite Senſe, and ſerves to ſuſtain the Veſſels which enter the Bones with their Nouriſhment. (5.) The Proceſſes of Bones on their Extremities are lined with a *cartilaginous* Coat, which is white, ſmooth and ſenſeleſs, that they might move eaſily on the Junctures, and without Pain.

The Perioſteum, and its Uſe.

The cartilaginous Lining of the Proceſſes.

Of the threefold Articulation of the Bones.

THE *Articulation* or *Juncture* of the Bones is of three ſeveral Kinds, *viz.* (1.) *Diarthroſis*, which is with manifeſt Motion. (2.) *Synchondroſis*, which is by means of a *Cartilage*, and with a ſmall and obſcure Motion. (3.) *Synarthroſis*, which is without any Motion at all.

Diarthroſis twofold, viz. Arthrodia, or Enarthroſis.

OF the *Diarthroſis* there are two ſorts, *viz.* (1.) *Enarthroſis*, or *Arthrodia*; when a round Head of one Bone is receiv'd into the round Cavity of another, or by Ball and Socket; ſuch is that of the *Femur*, or the *Thigh Bone*, and the *Iſchium.* By this Juncture the Parts move equally to any Side. (2.) *Ginglymus*, which is when a Bone receives another,

And Ginglymus.

another, and is at the ſame time received by that other; the Property whereof is to admit only of *Flexion* and *Extenſion*, as in the *Elbow* and *Knee*.

Synchondroſis. *SYNCHONDROSIS* (as was ſaid) is when the Extremities of two Bones are joined together by means of an intervening Cartilage. Thus the Bodies of the *Vertebræ*, and the Extremities of the Ribs and *Sternum* are articulated, where tho' the Motion of all is manifeſt, yet that of any two is hardly diſcernible.

Synarthroſis of three Kinds. *SYNARTHROSIS* is threefold; (1.) *Suture*, which is when two Bones are mutually *indented* in one another, in manner of a *Seam*: *Suture.* Thus the Bones of the Scull are joined by the *Sutura Coronalis*, *Sagittalis*, *Lambdoidalis*, &c. (2.) *Gomphoſis*; *Gomphoſis.* this is when one Bone is faſtened into another, like a Nail in a Piece of Wood. Thus the *Teeth* are articulated in the Jaw Bones. (3.) *Schindyleſis*, *Schindyleſis.* which is when a Bone, by a long and narrow Chanel, receives a ſmall Proceſs or Edge of another Bone; as the *Vomer* is articulated into the *Os Sphænoides* and *Septum Narium*.

Of the Nails. THE *NAILS*, tho' not *Bones*, yet approach nearer the Nature of *Bones* than *Fleſh*, and are ſimilar to *Hoofs* in Beaſts, and *Talons* in Birds: They are of a peculiar Nature, and ſeem to grow from a *viſcous Matter*, which by the Air hardens into a ſort of *horny* Subſtance, appointed by Nature to defend the *Their Uſe.*

Tops of the *Fingers* and *Toes*, and for ſeveral other Uſes well known.

The Number of the Bones.

The Number of *Bones* in the *human Sceleton* are 245, beſides the *Oſſa Seſamoidea*, which are ſaid to be 48. The Uſe of the Bones is, (1.) For *Firmitude* and *Suſtentation* of the Body, like *Beams* and *Pillars* in Houſes. (2.) For *Defence* of *Parts*; thus the *Scull* defends the *Brain*, the *Ribs* the Entrails of the *Thorax*, &c. (3.) For *Progreſſion* and *Walking*, of which they and the *Muſcles* are only Inſtruments. (4.) For *Shape*, *Size*, and *Beauty* of the ſeveral Parts, and of the whole Body; beſides infinite ſpecial Uſes of particular Bones.

The general Uſes of the Bones.

An Introduction to the Second Part, Sarcology.

Having diſpatch'd the *firſt*, we come now to the *ſecond Great Part* of *Anatomy*, *viz.* *SARCOLOGY*; which, as I ſaid, is ſubdivided into *Myology*, *Splanchnology*, and *Angiology*. But for a proper Introduction hereto, I ſhall premiſe, (1.) The *Anatomical Diviſion* of the Body into Upper, Middle, and Lower Cavity. (2.) The Doctrine of the common *Integuments* and *Membranes* of the Body, under the Title of *Membranology*.

The Body divided into

The *Trunk* of the human Body is, by *Anatomiſts*, divided into three *Cavities* or *Regions*, viz. (1.) The *Upper*, which is the *Head*. (2.) The *Middle*, which is the *Cheſt* or *Thorax*, containing all from the Neck to the *Midriff* or *Diaphragm*. (3.) The *Lower* Cavity, or *Abdomen*, commonly call'd the

The Head,
The Thorax,
The Abdomen.

Belly. And according to this Diviſion we ſhall proceed in future Deſcriptions of the Contents and Appurtenances of each.

Of Membranology.

MEMBRANOLOGY treats of the various *Membranes*, *Coats*, and *Coverings* of the Body in general, and the Parts in particular. The common Parts or Teguments are as follow. (1.) The *Epidermis*, *Cuticula*, or Scarff-Skin; this is the outmoſt Covering of the Body, and is that thin *Pellicle* which riſes in Bliſtering; it lies on the true *Skin*, and cloſely adheres thereto; it ſeems to be made up of ſeveral Lays of exceeding ſmall *Scales*, lying partly on one another. Under *one* of thoſe *cuticular Scales* there are reckon'd 500 *Orifices* of excretory Chanels for *Perſpiration*; and that one Grain of Sand will cover 250 of thoſe *Scales*, and therefore will cover 125000 of thoſe *Orifices* thro' which we perſpire. The Uſe of it is to defend the Extremities of the Nerves from all external Injuries. (2.) The *Cutis*, or *Skin*; in which we obſerve three Things: Firſt, an infinite Number of *Papillæ Pyramidales*, which are the Ends of all the Nerves of the Skin riſing in a *Pyramidal Figure*; between theſe are an infinite Number of Holes, which are the *Orifices* of the *Excretory Veſſels* of the *Miliary Glands* beneath. Secondly, a Web of nervous Fibres and other Veſſels differently interwoven, which makes the *Parenchyma*, or Subſtance of the Skin. The third Part is an infinite Number of *Miliary Glands*, which lie

The Epidermis, Cuticula, or Scarff-Skin.

Its Contexture of Scales, &c.

The Cutis, or true Skin.

The Papillæ Pyramidales.

The Parenchyma of the Skin.

The Miliary Glands.

lie under the other two Parts, and ſeparate the Matter of *Sweat* and inſenſible Perſpiration. *The Uſe of the Skin.* The Uſe of the Skin is a *general Covering* of the Body, and to be the *Seat* of the *Organs* of the general Senſe of *Feeling*; and of the *Emunctories* of *Perſpiration*, thro' which we perſpire daily near 50 Ounces of Matter. *Of the Hair.* (3.) The *Hair* may be reckon'd among the Teguments of the Body. They have each a round bulbous Root which lies deep in the Skin, which draw Nouriſhment from the ſurrounding Humours; according to the different Qualities of which, the Hair has *different Colours*. Their Uſe is for a *Covering* and *Ornament* to the Body. (4.) *The Membranum Adipoſum.* Beneath the Skin lies the *Membranum Adipoſum*, or Membrane of *Fat*. *The Fat, what.* It conſiſts of infinite Numbers of Veſicles or little Bladders, in which is depoſited the *oily* and *ſulphureous* Part of the Blood, which in thoſe membranous Cells we call the *Fat*. *Two Sorts;* There are two Sorts of *Fat*, one yellowiſh, ſoft, and lax, call'd *Pinguedo*; *Pinguedo, and Sevum, or Suet.* the other white, firm, brittle, and not eaſily melted, call'd *Sevum*, Suet, or Tallow. The chief Uſe of the Fat is to blunt and ſweeten the Acrimony of the Salts of the Blood, and to moiſten and ſupple the Parts for eaſy Motion. *The Membrana Carnoſa.* (5.) The *Membrana Carnoſa* is only a Part of the laſt Membrane, which in ſome Places appears *reddiſh* and *fleſhy*; for the the Blood-Veſſels there lie very thick, the *Veſicles* not being diſtended with *Fat*. Theſe are the general Coats or Coverings of the Body.

Of the particular Membranes of the Parts; Meninges, Pleura, Peritonæum, Pericardium, Perioſteum, &c

THE *Membranes* which cover and wrap up particular Parts are various, as (1.) The *Meninges*, or *Dura* and *Pia Mater*, which embrace the *Brain* and its Parts. (2.) The *Pleura*, which lines the *Thorax*. (3.) The *Peritonæum*, which wraps up all the Contents of the *Abdomen*. (4.) The *Pericardium*, which contains the *Heart*. (5.) The *Perioſteum*, which environs the *Bones*. (6.) The *Membrana propria Muſculorum*, or that which wraps up all the Fibres of a Muſcle. And (7.) Another *Vaſcular Membrane* which accompanies all the Veſſels of the Body. Thoſe which make the Tubes and Pipes of *Veſſels* and the *Viſcera*, as the *Veins*, *Arteries*, *Stomach*, *Bladder*, *Inteſtines*, *Teſticles*, &c. are call'd *Tunicles* or *Coats*. The Membranes receive *Veins*, *Arteries*, and *Nerves* from the Parts which are neareſt to them.

Tunicles.

Of Myology.

MYOLOGY, or the Doctrine of the *Muſcles*, being the firſt general Part of *Sarcology*, comes now to be conſidered. *A Muſcle is a Bundle of fleſhy and often tendinous Fibres, of which all in the ſame Plane are nearly parallel to one another, and they are all encloſed by one proper Membrane.*

A Muſcle, what.

The Body or Belly of a Muſcle.

THE *fleſhy Fibres* compoſe that Part which is call'd the *Body* or *Belly* of the *Muſcle*; they are *red*, *lax*, and *ſpongeous*, containing a Number of *ſmall Cavities*, and are tied together by a Number of ſmall ſhort Threads, which go from Fibre to Fibre, call'd *membranous Fibres.*

The Head and Tail thereof. THE *tendinous Fibres* compoſe the two *Extremities*, call'd the *Head* and *Tail*, or the two *Tendons* of the Muſcle. They are *white*, *hard*, and *compact*, and cloſely bound together, which makes them leſs than the *Body* of the Muſcles. Theſe *tendinous Fibres* ſeem to be nothing but the Continuation of the *fleſhy Fibres* diveſted of their *Carnoſity* or *fleſhy Subſtance.*

Their Veſſels. EACH *Muſcle*, and every *Fibre* of a *Muſcle*, has *Nerves*, *Veins*, and *Arteries*; either of which, being tied, deprives the Muſcle of the Power of contracting; but the *Stoppage* being remov'd, they again *contract*, and contracting *ſwell:* So that the *Action of Muſcles* is perform'd by the *Rarefaction* of the *Blood* and *Spirits* diſtending the *Cavities* of the *Fibres.* *The Action of Muſcles, whence.*

The Diviſion of Muſcles into ſimple and compound. THE *Muſcles* are either *ſimple* or *compound*; the *ſimple* have all their Fibres parallel, and in the ſame Direction. The *compound Muſcles* have the *fleſhy Fibres* of ſeveral *Planes* croſſing one another, or of *different Directions*; and they may be *divided* into as many *ſimple Muſcles* as there are Planes, whoſe Fibres have different Directions. The *Strength* of a *Muſcle* conſiſts in the *Number of its Fibres.* As to the Form or Figure of *Muſcles*, ſome are *long* and *round*, ſome *plain* and *circular*, ſome *broad* and *rhomboidal*; *The Form of the Muſcles.*

dal; others have Fibres which divaricate, and from a *broad* or *circular* Beginning converge into a *ſmall Tendon*; ſome are double, conſiſting of a Tendon running thro' their Bodies from *Head* to *Tail*; ſome are *ſquare*, ſome *annular*; ſome *Muſcles* have two or three Tendons at one End, and theſe are call'd *Biceps*, *Triceps*, &c. Sometimes one Muſcle has *two Bodies*, which is call'd *Biventer*, or *Digaſtric*: Sometimes ſeveral Muſcles join in *one Tendon*, as the *Tendo Achillis*, at the Heel; with much more Variety of this ſort.

The Uſe of the Muſcles, and Theory of Animal Motion.

THE Uſe of *Muſcles* is twofold. (1.) They conſtitute the *fleſhy Part* of the Body, and give it that *beautiful Form* and *ſuperficial Variety* we obſerve in every Part. (2.) But they principally ſerve for *animal Motion*; for by their means all the Parts of the Body are moved; which is thus accounted for: The *Cavities* of the *muſcular Fibres* (as was ſaid) being diſtended and ſwoln with *Blood* and *Spirits* rarefied therein, they muſt neceſſarily contract and become ſhort; and therefore the Bone or Part into which the *Muſcle* is inſerted, will, by this Contraction of the *Muſcle*, be *drawn* or *pull'd* toward the Part whence the ſaid *Muſcle* ariſes: And this, in ſhort, is the *general Theory* of *animal* or *muſcular Motion*. But by what means the *Action of the Muſcles*, or the *Motion of the Parts*, is the *Subject* of the *Will*, and anſwers *inſtantly* to the *quickeſt Thought* of the *Mind*, I have

I have found no Mortal yet wiſe enough to teach.

A Table of all the Muſcles of the Body, with their particular Actions.

Instead of a dry and tedious Account of the *Muſcles*, I judge it will be ſufficient to exhibit a Table of their Names and Uſes, as drawn up by the accurate Pen of the late ingenious Doctor *Keill*, and which is as follows.

Muſcles of the Head 2 Pair.	Frontales		Pull the Skin of the Forehead up.
	Occipitales		Pull the Skin of the Hindhead up.
Of the Ears 6 Pair.	Attollens	Auricularum	Lifts up the Ear.
	Deprimens		Pulls down the Ear.
	Internus	Malleoli	Diſtends the *Tympa*[illegible]*m.*
	Externus		Relaxes it.
	Obliquus		
	Muſculus Stapidis		Moves the Stirrop-Bone.
Of the Eye-brows 1.	Corrugator Supercilii		Knits the Eye-brows.
Of the Eye-lids 2.	Rectus Palpeb. ſuper.		Lifts up the Upper Eye-lids.
	Orbicularis Palpebrarum		Shuts both Eye-lids.
Of the Eyes 6.	Attollens	Oculorum	Draws the Eyes upwards.
	Deprimens		Pulls them downwards.
	Adductor		Brings them to the Noſe.
	Abductor		Draws them from the Noſe.
	Obliquus Major		Pulls the Eye forw. & ob. downw.
	——— Minor		Pulls the Eye forw. & ob. upwards
Noſe 3 Pair.	Attollens	Nares	Lifts up the Noſe.
	Deprimens		Compreſſes the Noſtrils.
	Dilatans		Diſtends them.
Of the Lips 6 Pair, and one ſingle one.	Inciſivus		Pulls the upper Lip upwards.
	Triangularis		Pulls it downwards.
	Caninus		Pull the lower Lip upwards.
	Elevator Labii ſup.		
	Quadratus		Pulls it downwards.
	Zygomaticus		Draws both ob. to either Side.
	Orbicularis		Draws both Lips together.
Cheeks 1 Pair.	Buccinator		Thruſts the Meat betw. our Teeth.
Lower Jaw, 6 Pair.	Temporalis		They pull the Jaw upwards.
	Maſſeter		
	Plerigoidæus Internus		Draws the Jaw to either Side.
	——— Externus		Draws the Jaw forwards.
	Quadratus		Pulls the Jaw & Cheeks downw.
	Digaſtricus		Pulls the Jaw downwards.

Peri-

Uvula, 2 *Pair.*	Periſtaphylinus Internus	Pulls the *Uvula* forwards.
	——— Externus	Pulls the ſame backwards.
Tongue, 3 *Pair.*	Stylogloſſus	Draws the Tongue upwards.
	Geniogloſſus	Pulls it out of the Mouth.
	Ceratogloſſus	Pulls it into the Mouth.
Os Hyoides, 5 *Pair.*	Geniohyoidæus	Pulls the *Os Hyoides* and Tongue upwards and forwards.
	Sternohyoidæus	Pulls the *Os Hyoides* downwards.
	Mylohyoidæus	Pulls it obliquely upwards.
	Coracohyoidæus	Pulls it obliquely downwards.
	Stylohyoidæus	Elevates it to either ſide.
Of the Pharynx, 2 *Pair.*	Stylopharyngæus	Pulls up and dilates the *Pharynx.*
	Oeſophagæus	Straitens the *Pharynx.*
Larynx, 7 *Pair.*	Sternothyroidæus	Pulls the *Thyroides* downwards.
	Hyothyroidæus	Pulls the *Thyroides* upwards.
	Cricothyroidæus.	Moves the *Thyroides* forwards.
	Cricoarytœnoidæus Poſt. ——— Later.	Draw the Cartilages obliquely ſideways.
	Thyroarytœnoidæus	Dilates the *Glottis.*
	Arytœnoidæus	Contracts the *Glottis.*
Head, 10 *Pair*	Splenius Complexus	Move the Head backwards.
	Rectus Major —— Minor	Nod the Head backwards.
	Obliquus Infer. ——— Super.	Turn the Head about.
	Rectus Intern. Major ——— Minor	Nod the Head forwards.
	Rectus Lateralis	Nods the Head to one Side.
Of the Thorax, 29 *Pair.*	Intercoſtales Interni ——— Externi Subclavius Serratus Anticus Major ——— Poſticus Super. Triangularis	They pull the Ribs upwards in Inſpiration.
	Serratus Poſt. Inferior Sacrolumbaris	They quicken the Motion of the Ribs downwards in Expiration.
	Diaphragma	Aſſiſts in Inſpirat. & Expiration.
Of the Abdomen, 5 *Pair.*	Obliquus Externus ——— Internus Tranſverſalis Rectus Pyramidalis	They compreſs all the Parts in the Lower Belly, aſſiſt the Motion of the Ribs downwards in Expiration, and help to bend the *Vertebræ* of the Loins forw.
Vertebræ, 7 *Pair.*	Longiſſimus Dorſi	Keeps the Body erect.
	Tranſverſalis Dorſi	Moves the Body ob. backwards.
	Interſpinalis	Brings the acute Proceſſes nearer together.

	Quadratus Lumborum	Draws the *Vertebræ* of the Loins to one Side.
	Longus Scalenus	Bend the *Vertebræ* of the Neck.
	Pſoas Parvus	Helps bend the *Vert.* of the Loins.
Male Privities 4 *Pair.*	Cremaſter	Draws up the *Teſtes* in Coition.
	Erectores Penis Tranſverſalis Penis	Erect the *Penis.* Dilates the *Urethra.*
	Acceleratores Urinæ	Aſſiſt the Expulſion of Urine, &c.
Clitoris 1 *Pair*	Erectores Clitoridis	Erect the *Clitoris.*
Bladder, a ſingle one.	Sphincter Veſicæ	Contracts the Neck of the Bladd.
	Levatores Ani	Draw up the *Anus.*
Anus, 3 *ſingle ones.*	Sphincter Ani	Cloſes the *Anus.*
	Serratus Anticus Min.	Draws the Should. Blade forw.
Shoulder-Blades, 4 *Pair.*	Trapezius	Moves it upwards, backwards, and downwards.
	Rhomboides	Pulls it backwards.
	Levator Scapulæ	Pulls the Should. Blade upwards.
Arm-Bones, 9 *Pair.*	Deltoides Supra-ſpinatus Coracobrachialis	Lift the Arm upwards.
	Teres Major Latiſſimus Dorſi	Pull the Arm downwards.
	Pectoralis	Moves the Arm forwards.
	Infra-ſpinatus Tranſverſalis Subſcapularis	Draw the Arm backwards.
Of the Cubits, 6 *Pair.*	Biceps Brachiæus Inter.	Bend the Fore-Arm.
	Longus Brevis Brachiæus Exter. Anconæus	Extend the Fore-Arm.
Radii, 4 *Pair.*	Rotundus Quadratus	They turn the Palm of the Hand downwards.
	Longus Brevis	Turn it upwards.
Of the Wriſts, 4 *Pair.*	Cubitæus Inter. Radiæus Inter.	Bend the Wriſt.
	Cubitæus Exter. Radiæus Exter.	Extend the Wriſt.
Palms, 2 *Pair.*	Palmaris	Helps to clutch the Hand.
	——— Brevis	Makes the Palm hollow.
Of the Fingers, 15 *Pair.*	Sublimis Profundus	Bend the Fingers.
	Extenſor Digitor. Com.	Extends the Fingers.
	Lumbricales	Aſſiſt in bending their firſt Joint.

Interoſſei

Thumbs, 7 Pair.	Interoſſei Interni	Draw the Fingers to the Thumb.
	Interoſſei Externi	Draw them from the Thumb.
	Flexor Pollicis Long.	Bend the Thumb.
	——— Brev.	
	Extenſor primi Internodii Pollicis	Extends the firſt, ſecond, and third Joint of the Thumb.
	——— ſecundi	
	——— tertii	
	Tenar	Draws the Thumb from Fingers.
	Antitenar	Draws it to the Fingers.
Fore-fingers, 2 Pair.	Abductor Indicis	Draws the Fore-fingers fr. the reſt
	Extenſor Indicis	Extends the Fore-finger.
Little-fingers, 2 Pair.	Hypotenar	Draws the Little Finger fr. reſt.
	Extenſor Auricularis	Extends the ſame.
Of the Thighs, 13 Pair.	Pſoas	Bend the Thigh.
	Iliacus	
	Pectinæus	
	Glutæus Major	Extend the Thigh.
	——— Medius	
	——— Minor	
	Triceps	Pulls the Thigh inwards.
	Pyriformis	Move the Thigh outwards.
	Gemini	
	Quadratus	
	Obturator Inter.	Help to move the Thigh obliquely and circularly.
	——— Exter.	
Of the Legs, 11 Pair.	Seminervoſus	Bend the Leg.
	Semimembranoſus	
	Biceps	
	Gracilis	
	Vaſtus Exter.	Extend the Leg.
	——— Inter.	
	Crureus	
	Sartorius	Brings the Legs acroſs each other
	Poplitæus	Turns the Leg ſomewhat inwards
	Membranoſus	Turns it ſomewhat outwards.
Of the Feet, 8 Pair.	Tibialis Anticus	Bend the Foot.
	Peronæus Anticus	
	Gaſtrocnemii	Extend the Foot.
	Soleus	
	Plantaris	
	Peronæus Poſticus	Moves the Foot inwards.
	Tibialis Poſticus	Moves it outwards.
Of the Toes, 24 Pair.	Profundus	Bend the Four Leſſer Toes.
	Sublimis	
	Lumbricalis	
	Longus	Extend them.
	Brevis	

Extenſor Pollicis	Extends the Great Toe.
Tenar	Draws it from the reſt.
Antitenar	Draws it to the reſt.
Flexor Pollicis Long. ——————Brev.	Bend the Great Toe.
Abductor Minim. Digit.	Draws the L. Toe out fr. the reſt
Interoſſei Interni	Draw the Toes to the Gr. Toe.
——— Externi	Draw them from the Gr. Toe.
Tranſverſalis	Brings all the Toes cloſe to one another.

In all 446 ſingle Muſcles in the Body.

Having thus ſuccinctly diſpatch'd the Myology, we are led by our Method to treat next of

Of Splanchnology.

SPLANCHNOLOGY, the Second grand Diviſion of *Sarcology*. This Head compriſeth the *Viſcera*, or Bowels, or rather all the Contents of the *Head*, *Thorax*, and *Abdomen*. I ſhall therefore begin firſt with the Parts of the *Head*. The *Brain* is the only conſiderable *Viſcus* of the Head, properly ſo call'd; it is encloſed within the two Membranes call'd the *Meninges*, viz. the *Dura Mater* and *Pia Mater*; they are call'd *Mater*, i. e. Mother, becauſe ſuppoſed to be the Original of all other Membranes of the Body.

The Dura Mater.

The *Dura Mater* covers all the Cavity of the *Cranium*, and adheres cloſely to the Baſis thereof. It contains the whole *Brain* ſomewhat looſely, that the Veſſels between its Duplicature, and on the Surface of the Brain, be not too much preſs'd by the Scull. It gives a Coat to all the Nerves which ariſe from the Brain to the *Spinal Marrow*,

row, and all the Nerves proceeding from it. It has ſeveral Proceſſes, and *Sinus's* returning the Blood from the *Brain* to the internal *Jugular Veins.*

The Pia Mater.

THE *Pia Mater* is a *thin*, delicate, double Membrane lying under the *Dura Mater*, and covers immediately the Subſtance of the Brain. The internal Membrane is much the largeſt, running in betwixt all the *Foldings* and *Circumvolutions* of the Brain, to ſeparate them and ſuſtain the *Blood-Veſſels*, which make ſeveral *Turnings* and *Windings* upon it, before they terminate in the Subſtance of the Brain.

The Subſtance of the Brain.

THE Subſtance of the Brain is divided into two Parts, (1.) The *Cerebrum*, which lies moſtly on the Fore-part of the Scull; and (2.) The *Cerebellum*, which lies in the Back-part, under the Hind-part of the *Cerebrum.*

The Cerebrum.

THE *Cerebrum*, or Fore-part of the Brain, is of an oblong Figure; its external Surface is full of *Circumvolutions* reſembling the *Inteſtines.* The external Subſtance of the *Cerebrum* is of an Aſhy Colour, ſoft and glandulous, as conſiſting of an infinite Number of little *Oval Glands*, which receive the Capillary Branches of the Veins and Arteries of the Brain, and which ſend out an infinite Number of *Fibres*, which all together make the *inner*, *white*, *firm*, *fibrous*, or *medullary* Subſtance of the Brain; and this at the Baſis of the Scull, where it goes off the Brain, being

The Medulla Oblongata.

being a Proceſs of an *oblong Form*, is called the *Medulla Oblongata.*

Parts of the Brain.

Centrum Ovale.

Corpus Calloſum.

Crura Medullæ Oblongatæ.

Corpora Striata.

Thalami Nerv. Optic.

Plexus Choroides.

Fornix.

As the internal Subſtance of the right and left Side of the Brain approach to join each other, they leave a Space which forms *three Ventricles*, or *Centrum Ovale.* The upper Part, or Covering of this Space, is called the *Corpus Calloſum*, or *Callous Body*; the Bottom of this Space is the internal Subſtance of the two Sides of the *Cerebrum*, gathered together, as it were, into two Bundles, which are call'd *Crura Medullæ Oblongatæ.* Upon them are the two Protuberances call'd *Corpora Striata*, or *Streaked Bodies*; which conſiſt of a Mixture and Union of the *medullary Subſtance* with the *cineritious* or *glandulous.* On the ſame *Crura* alſo are found two other Prominences, call'd *Thalami Nerv. Optic.* or *Chambers of the Optic Nerves*, becauſe they ariſe out of them: They are *medullary* without, and a little *cineritious* within, and of an oblong Figure. Between the two lateral *Ventricles* of the *Brain* is extended the *Plexus Choroides*, or *Net-like Web*, which is made up of *Veins*, *Arteries*, *Lymphatics*, and *little Glands.* In the Middle, above the *Corpora Striata*, and *Thal. Ner. Op.* there lies a thin and broad Production of the *medullary Subſtance*, which covers the third *Ventricle*, and is therefore call'd the *Fornix*, or *Furnace.* From this third *Ventricle* there is a Hole leading to the *Pituitary Gland*, which is called the *Infundibulum*, or *Funnel*, from its Form: It is form'd of the *medullary Subſtance*; and piercing the *Dura Mater* on the Baſis of the Scull, enters into the *Glandula Pituitaria*, which is ſituated in the Cavity call'd the *Sella Turcica*; it is cloſely cover'd with the *Pia* and *Dura Mater*, and is of a harder Subſtance than the other Glands of the Body. This Gland is ſurrounded by the *Rete Mirabile*, or *Wonderful Net*, which conſiſts of Branches of *Veins* and *Arteries* of the Neck. Its Uſe is to break the *Impetus*, and abate the Velocity of the Blood, as it paſſes through the tender Subſtance of the Brain. In the hinder Part of the third *Ventricle*, there is a little Hole call'd the *Anus*, which leads into the fourth *Ventricle* in the *Cerebellum*: In this Hole, on the upper Part, is ſituated the *Glandula Pinealis*, (which *Deſcartes* ſuppoſed was the *Seat or Domicile of the Soul)* about the Bigneſs of a *Pea*; it is compoſed of the ſame Subſtance with the reſt of the Brain, and for the ſame Uſe. It is tied by ſome *Fibres* to the *Nates*, which are two Prominences (like *Buttocks)* of the *Medulla Oblongata*; behind which are two others call'd the *Teſtes*, both cover'd with a Net of Blood-Veſſels. There is a ſmall tranſverſe *medullary Protuberance* behind the *Teſtes*, from which the *Pathetic Nerves* ariſe. The Part which joins the *Cerebrum* and *Cerebellum*, is called the *Iſthmus*, by which we arrive at the

Infundibulum.

Glandula Pituitaria.

Rete Mirabile.

Glandula Pinealis.

Nates.

Teſtes.

Iſthmus.

The Cerebellum. *Cerebellum* (which is as much as to ſay a *little Brain.)* This Part is alſo compoſed of a *cortical* and *medullary Subſtance*; its Superficies conſiſts of *ſemicircular Foldings*, which grow leſs as they approach its fore and hind Part, where they ſeem to reſemble two *Worms*, and are therefore called *Proceſſus Vermiformes*. *Proceſſus Vermiformes.* The medullary Subſtance of the *Cerebellum* divides into two equal Bundles, which join the two Sides of the *Medulla Oblongata*. Between them is a little Space, on the upper Side of the *Medulla*, call'd the *fourth Ventricle*; *The fourth Ventricle.* and its farther End, being like a *Pen*, is call'd *Calamus Scriptorius*. From under the *Cerebellum*, the *Medulla Oblongata* goes out of the *Scull* into the *Spine*, being contained in the *Pia* and *Dura Mater*, and is there what we call the *Spinal Marrow*.

The Veſſels of the Brain. THE *Veſſels* of the Brain are *Veins* and *Arteries*, and *ten Pair of Nerves* have their Origin immediately from the Brain, which go to the *Eyes*, *Ears*, *Noſe*, *Palate*, and other Parts of the Head.

The Uſe of the Brain. THE Uſe of the Brain is to ſeparate from the Blood brought thither, the moſt fine, ſpirituous, and noble Part thereof, call'd *Animal Spirits*, by the Glands in the external Part of the Brain, from whence they are receiv'd by the *Fibres* of the *Medullary Subſtance*, and thence convey'd through the *Nerves* to all the Parts of the Body, imparting the *Faculty of Senſation* to the whole

Machine; and thus Creatures become *ſenſitive Animals.* And that Part in the Brain where the *Fibres* which make the Nerves have their Origin, call'd the *Medulla Oblongata*, hath been eſteem'd (and thence named) the *Senſorium commune*, or *Common Senſory*, the Seat of the *Mind*, where it receives all its *Ideas* by means of the ſeveral *Organs of Senſe*.

The common Senſory.

THE *Organs of Senſe* come now to be treated of. The Organs of *Sight* are the firſt and nobleſt of all; in them, *viz.* the *Eyes*, we diſtinguiſh the *External* and *Internal Parts.* The *External* Parts are, (1.) The *Eye-brows*, which are *Hairs* growing on ſome *Fat* bunching out in theſe Parts; and ſerve to break the *Rays* of Light, that they be not directly darted upon, and ſo offend the Sight. (2.) The *Eye-lids*; the upper moves quickly, the lower very undiſcernibly, by proper Muſcles; they cloſe the Eyes as in a Caſe, and form two Angles call'd the *greater* and *leſſer Canthus.* (3.) The *Cilia*, which are two ſmall and ſoft *Cartilages* on the *Edges* of the Eye-lids, like Segments of a Circle; they keep the Eye-lids extended, and by certain *Glands* yield a Wax to cement them together in Sleep. On them grow a Border of ſtiff Hairs, which defend the Eyes from Filth, Flies, *&c.* falling into them. *(4.)* The Membrane of the Eye-lid call'd the *Conjunctiva*, becauſe it is continued upon the Globe of the Eye, and forms what is

Of the Organ of Sight, the Eyes.

The Eye-brows.

Eye-lids.

The Cilia.

The Conjunctiva.

call'd the *White of the Eye*; it joins the *Ball* to the *Edges* of the *Orbit.* (5.) The *Glandula Lachrymalis*, or weeping Gland, lies behind the *Conjunctiva* on the Upper-part of the *Ball*; it is pretty large, and its Uſe is to ſeparate the Matter of the *Tears*, to keep the outer Coat of the Eye conſtantly moiſt and ſupple for Action. (6.) The *Puncta Lachrymalia* are two ſmall *Holes* in the *Great Canthus* or Corner of the Eye, one in each Eyelid; theſe collect the *Tears* directed hither by the circular Edges of the Eye-lids; they lead to a ſmall membranous *Bag* ſituate on the *Os Lachrymale*, which by a ſmall Pipe diſcharges the *lachrymal Humour* upon the internal Parts of the Noſtrils, to moiſten the Membrane thereof.

Glandula Lachrymalis.

The Puncta Lachrymalia.

THE *Coats* of the Eyes are (1.) The *Conjunctiva*, already deſcrib'd. (2.) The *Sclerotica*; 'tis thick, hard and ſmooth; opake behind, and tranſparent before, where it makes (3.) The *Cornea*, ſo called becauſe *tranſparent* on the Fore-part of the Eye like the *Horn* of a Lanthorn; it is ſurrounded by the White, and has a greater Convexity than the reſt of the Globe. It has a moſt exquiſite Senſe, in order to excite *Tears*, to waſh off any thing that might hinder its *Tranſparency.* (4.) The *Choroides*; it lies under the *Sclerotica*, and is much thinner than it; this Coat has that *circular Hole* before, which we call *Pupilla* or *Pupil of the Eye.* (5.) The *Uvea*, which is made of *circular* and *ſtrait Fibres*, which

The Coats of the Eyes.
The Conjunctiva.
Sclerotica.
Cornea.

Choroides.

Uvea.

which make the Circumference of the *Pupil*, and hath thereby the Power of *Contracting* and *Dilating*, according as greater or leſſer Light is requir'd. The Outſide of the *Uvea*, where the *Colours* appear, is call'd the *Iris*; and on the Inſide ariſes the *Ligamentum Ciliare*, which compreſſes the *Glaſſy Humour*, and lengthens the *Axis* of *Viſion*. *(6.)* The *Retina*, of a *Net-like* Contexture, covering the Bottom of the Cavity of the Eye; it is a fine Expanſion of the *Medullary Fibres* of the *Optic Nerve* on the Glaſſy Humour. 'Tis on this Coat the *Species* of Objects are painted.

Retina.

THE *Humours*, which make the Body of the Eye, are three. (1.) The *aqueous* or *watry Humour*; it lies on the *Fore-part* of the Globe, under the *Cornea*; it is thin and liquid, and of a ſpirituous Nature, for it freezes not in the greateſt Froſt. If the *Cornea* be prick'd, and this Humour be ſqueez'd out, it will be ſupplied again in 10 or 12 Hours. *(2.)* The *Chryſtaline Humour* lies next the *Aqueous*, behind the *Uvea*, oppoſite to the *Pupil*. It is the *leaſt*, but the moſt *ſolid* of the Humours; it is convex on both Sides, reſembling a double *Convex Lens* both in *Figure* and *Uſe*, which is to receive and converge the Rays to a proper *Focus* on the *Retina*. It is cover'd with a fine Coat call'd the *Aranea*. (3.) The Glaſſy or *Vitreous* Humour; it has a great *Likeneſs* to the *White* of an Egg; it fills all the Hind-

The Humours of the Eye.
The Aqueous Humour.

The Chryſtaline.

The Vitreous or Glaſſy Humour.

part of the Cavity of the Globe, and is much the largeſt in Quantity; it is cover'd with a fine Coat, and gives the *Spherical Figure* to the Eye. On its Back-part the *Retina* is ſpread, which it keeps at a due *focal* Diſtance from the *Chryſtaline Lens.*

Viſion what, and how performed.

Viſion, (the Effect of the *wonderful Machinery* of the Eyes) is thus perform'd. All the Rays which come from one Point of an *Object* are by the *Cornea* and *Humours* of the Eye united in a Point on the *Retina*, and thus all Rays which come from all Points of an Object are united there in the ſame Proportion as in the Object, but in an inverſe Order, and therefore the *Species* or Impreſſions of theſe Points on the *Retina* muſt together make the *Image* of the Object, and which by the *Optic Nerve* being communicated to the *Common Senſory* of the Brain, makes there the *Idea* in the Mind. After this Manner we conceive of *Forms* and *Qualities* of natural Bodies.

The Organ of Hearing, viz. *The Ear.*

The external Ear.

The Pinna, and Fibra, or Lobe.

THE next conſiderable *Organ of Senſation* is that of *Hearing*, viz. the *Ear*. It is divided into the *External* and *Internal*. The *External Ear* conſiſts of two Parts; of which the upper is call'd *Pinna*, or the *Wing*; the lower *Fibra*, or the *Lobe*. The Parts of the *Pinna* are the *Helix*, or outer Border of the Ear; the *Anti-helix*, which is the Semicircle within the other; the *Protuberance* at the lower End of which is call'd the *Anti-tragus*, becauſe of another *Prominence*

minence oppoſite to it call'd the *Tragus.* The Cavity form'd by theſe Parts is call'd the *Concha:* The Hollow in the middle of the Ear is call'd *Alvearium*, from which goes the *Meatus Auditorius* to the *Tympanum*, or Drum of the Ear. The *Uſe* of the *external Ear* is, like a *Funnel*, to gather the *Sounds*, and direct them through the *Auditory Paſſage*, to make their *Vibrations* on the *Tympany.*

The internal Ear. *The Meatus Auditorius.*

THE *internal Ear* begins with the *Meatus Auditorius*, which is about an Inch long, and one Tenth of an Inch wide; is not ſtrait, but a little winding; it is lined with a Membrane, behind which are *little Glands* which yield a yellow Excrement, call'd *Ear-Wax*, whoſe *Bitterneſs* and *Viſcidity* hinder *Inſects* from approaching the *Tympany.* The inner Extremity of the *Meatus* is cloſed with a *thin tranſparent Membrane*, of an *oval* Figure, ſtretch'd out like the *Head of a Drum.* Its Site is a little oblique to the Sides of the *Meatus*, and is ſet in a bony Circle of the *Temporal Bone.* Behind this Membrane there is a pretty large *Cavity* call'd the *Tympanum*, or *Drum* of the Ear; in this Cavity are four ſmall Bones. (1.) The firſt is call'd *Malleolus*, or the *Hammer*, from its Shape; its *Handle* is faſten'd to the *Membrane of the Tympany*, and in its Head is a Cavity, whereby it is joined to (2.) The *Incus*, or *Anvil*; it has a *Head*, and two *Legs*, the longeſt of which is tied to the Head

Head of the Drum.

The Tympanum or Drum.

Malleolus.

Incus.

Stapes. Head of (3.) The *Stapes*, or *Stirrop-like Bone*; it is of a triangular Figure, being made of two Branches ſet upon a flat *Baſis*; the Union of the two Branches is call'd the *Head* of the *Stirrop*; in the ſmall Cavity of which is receiv'd the *Head* of (4.) The *Os Orbiculare*, which is a very ſmall Bone, and receives the other *Leg* of the *Anvil*. Beſides theſe Bones, there are ſeveral *Holes* in the *Tympany*, of which the *Feneſtra Ovalis*, and *Rotunda*, are the chief; the latter leads to the *Cochlea*; the former to the Cavity call'd the *Veſtibulum*, in which opens the upper Turning of the *Cochlea*, and the three *ſemicircular Pipes* of the next Cavity, call'd the *Labyrinth*, which Pipes are excavated in the *Os Petroſum*. The laſt Cavity of the Ear is the *Cochlea*, ſo call'd as being like a *Snail's Shell*, winding in a *ſpiral Line*.

Os Orbiculare.

Feneſtra Ovalis, and Rotunda.

Veſtibulum.

Labyrinth.

Cochlea.

The Senſe of Hearing, how effected. BY this curious *Mechaniſm* of the Ear is the Senſe of *Hearing* effected. For Sounds ſtriking on the *Drum*, move the four little Bones in the *Tympany*, and theſe move the internal Air in the *Veſtibulum*, *Labyrinth*, and *Cochlea*, which make *Impreſſions* on the Branches of the *Auditory Nerve* ſpread over the various Surfaces of thoſe Cavities; and thus they become perceptible at the *common Senſory*, and all the *Sounds* diſtinctly *audible* and *intelligible* to the *Mind*, by the Communication of the ſaid Nerve with the Brain.

THE *Noſe* is a Part deſtin'd chiefly for the Senſe of *Smelling*; it conſiſts of *Skin*, *Muſcles*, *Cartilages*, and *Bones*. Its Upper Part conſiſts of two Bones cloſely joined on the upper Side; and four *Cartilages* conſtitute the lower Part of the Noſe; of which the two firſt are fixed to the aforeſaid Bones, and joined on the upper Side; and other two lie upon the lower End of theſe, to which they are tied by a Membrane call'd *Narium Ala*. The Cavity thus made is divided into two Parts, called *Nares*, or *Noſtrils*, by a Partition, *bony* at the upper End, and *cartilaginous* at the lower; and the fleſhy Extremity of this *Cartilage* is call'd *Columna*. At the Bottom are two little Holes, which carry the thin *Rheum* from the *Noſtrils* into the Mouth. The Cavity is cover'd with a thick and *glandulous Membrane*; its *Glands* ſeparate the Matter call'd *Mucus*, or *Snot*; and the Hairs which grow on the lower End are call'd *Vibriſſi*; thoſe, with the *Mucus*, ſtop any *Filth* from aſcending too far up the *Noſtrils*.

Of the Noſe, the Organ of Smelling.

Ala Narium.

The Noſtrils.

Columna.

The Vibriſſi.

THE immediate *Organ of Smelling* lies in the upper Part of the *Noſe*; it is made of the *Os Cribriforme*, and its Production the *Os Spongioſum*; of which each *Lamina* is covered with a fine *Membrane*, upon which the *Fibres* of the *Olfactory Nerve*, and ſome of the fifth Pair, are ſpread, and there receive the Impreſſion made by the *Exhalations*, or *Effluvia* of *Odoriferous Bodies*; which

The Senſe of Smelling, how perform'd.

which being convey'd by this *Nerve* to the *Brain*, do there excite the *Notions* and *Ideas* of *Smells* in the Mind.

The Parts of the Mouth. THE *Mouth* and *Tongue* are the laſt Parts to be conſider'd in the Head. The Parts of the *Mouth* are, *The Lips.* (1.) The *Lips*, which are made of ſeveral *Muſcles*, whoſe Uſe is to ſhut the Mouth, and articulate the Voice. *The Gums.* (2.) The *Gingivæ*, or *Gums*, which are a hard ſort of Fleſh, formed by the Union of two *Membranes*, *viz.* of the *Perioſteum*, and the inner one of the Mouth. They are ſet about the Teeth to keep them firm in their Sockets. *The Palate.* (3.) The *Palate*, or *Roof of the Mouth*; it is cover'd with a thick *Membrane*, upon which there are a great Number of *Glands*, which diſcharge a Liquor for moiſtening and diſſolving the *Aliments*. *The Uvula.* (4.) The *Uvula*; its Subſtance is very lax and glandulous, and of a conical Figure; it hangs from the Palate, at the End of the Paſſage to the *Noſe*, above the *Larynx*, between the *Tonſils*. Its *Muſcles* give it ſuch Motions as are neceſſary for articulating the Voice, and preventing any thing's regurgitating into the *Noſe* in *Deglutition*. *The Glands, viz.* (5.) The *Glands*; of which the principal are the *Parotides*, *The Parotides.* one on each Side under the Ear; the *Maxillares*, *Maxillares.* ſituated within the under Jaw, one on each Side; *Sublinguales.* the *Sublinguales*, one on each ſide the Tongue; *Tonſillæ.* the *Tonſillæ*, or *Almonds*, are placed on each ſide the Baſis of the Tongue;

with ſeveral other ſmall *Glands*; all which ſeparate a ſort of *Saliva*, or *Spittle*, which conduces to the Diſſolution of the *Aliments* in *Maſtication.*

Of the Tongue, the Organ of Taſting.

THE *Tongue* (admirably contrived for the *Faculty* of *Speech*, and *Senſe* of *Taſting*) is connected in the Mouth to the *Os Hyoides*, and to the *Larynx*, by a *Ligament* in the middle of its lower Side. The Subſtance of it is *muſculous*, being made of Planes of *Fibres* in different Directions; ſome of which contract and ſhorten the *Tongue*; others draw the Sides together, and make it round; and ſome make the *Tongue* broad and thin. The Tongue is covered with two *Membranes*; in the outer one are a great Number of *Papillæ*, of a pyramidal Figure, which ſerve to make the Tongue *rough*; but chiefly to preſerve the *Papillæ Nervoſæ*, ſituated beneath in the internal *Membrane* on the Sides, but moſtly on the Tip of the Tongue. Theſe *Papillæ* are the immediate *Organs of Taſte*; for being made up of the *Extremities* of *Nerves*, they thereby tranſmit to the *common Senſory* in the Brain, the *Senſations* of thoſe *Qualities* in Bodies which we call their *Taſtes* and *Savours.*

Its Subſtance.

Papillæ Pyramidales.

Papillæ Nervoſæ.

Taſtes, or Sapours, what.

Of the middle Cavity, or Thorax.

FROM the *upper*, we now deſcend to the *middle Cavity*, or *Region* of the *Body*, and view the *Viſcera* contained in the *Thorax*. To the *Thorax* therefore pertains the Deſcription of (1.) The *Larynx*, *Trachea*, and *Lungs.* (2.) The *Pleura Mediaſtinum*, and

Its Contents.

Thymus.

Thymus. (3.) The *Diaphragma*, or *Midriff.* (4.) The *Pericardium*, *Heart*, and its Parts. (5.) Of the *Breaſts*. Of which in Order.

Of the Larynx. FROM the *Mouth* lies a Paſſage to the *Lungs*, the upper Part of which is called the *Larynx*; it lies below the Root of the *Its Cartilages.* Tongue, before the *Pharynx*. It is compoſed of five *Cartilages*; the firſt *Thyroides*, *Scutiformis*, or like a *Shield*; this makes that Protuberance in the Throat call'd *Pomum Adami*, or *Adam's Apple*. The ſecond is the *Cricoides*, or *Annulary Cartilage*. The third and fourth are alike, and both call'd *Arytænoides*; they make the *Rimula*, or *The Glottis.* Mouth of the *Larynx*, call'd the *Glottis*; over which lies the fifth *Cartilage*, call'd the *The Epiglottis.* *Epiglottis*, reſembling a *little Tongue*. The Aliments paſſing over it into the *Oeſophagus*, preſs it down, thereby preventing any going down the Wind-Pipe; but when they are *Its Uſe.* paſt, it riſes again by its *natural Retort*, and gives way to the Air in *breathing*; which is one Part of its *Uſe*, the other being to form and modulate the *Voice*.

Of the Trachea, or Windpipe. FROM the *Larynx* is continued the *Trachea*, or *Wind-pipe*, through which the Air paſſes to the *Lungs*. It is ſituated in the fore Part of the Neck; it conſiſts of *annular Cartilages*, placed at ſmall and equal Diſtances, growing ſmaller as they approach the *Lungs*, which they enter at the fourth *Vertebra* of the Back; theſe *Cartilages* ſerve to keep the Paſſage always open for the Air.

Of the Lungs.
The Bronchi.
The Lobes.
Their Subſtance.
The Office of the Lungs.
Inſpiration.
Expiration.
Reſpiration.

The *Trachea* enters the *Lungs* by various Branches, and are there call'd *Bronchi*, which ſubdivide into infinite and moſt minute Ramifications through all the Subſtance of the *Lungs*. The *Lungs* are divided into two *Lobes* by the *Mediaſtinum*, in the Form of a *Cow's Foot*; they are variegated with a pale and reddiſh *Colour*. Their Subſtance is compoſed of an infinite Number of *little Lobes*, of various Size and Shape, which admit but very ſmall *Interſtices*; they are diſpoſed like Bunches of Grapes on the Sides of the *Bronchi*; each little *Lobe* contains, within its Membranes, numerous ſmall *orbicular Veſicles*; the *Extremities* of the *Branches* of the *Wind-pipe* open into the Cavity of theſe *Veſicles*, and the *Capillary Blood-Veſſels* are ſpread upon their Surface like Net-work. By this means the Blood is impregnated with the *Vital Spirit* of the Air, in every Circulation; by the Dilatation of the Breaſt, and Weight of the Atmoſphere, the Air ruſhes into the *Lungs*, and fills every little *Bladder*, which is call'd *Inſpiration*; but by the Contraction of the Breaſt, the Air is again forcibly expell'd, and this Action is call'd *Expiration*; both which alternate Operations of the *Lungs* are called *Reſpiration*; which is the moſt evident *Office* of the *Lungs*, and *Means* of *Life*.

Of the Pleura.

In the Cavity of the *Thorax*, we obſerve that it is covered with a double Membrane, called the *Pleura*; it ariſes from the *Vertebræ*, and aſcends, on each Side, upon the *Ribs* to the middle of the *Sternum*; it is fixed to the *Perioſteum* of the *Ribs*, the intercoſtal *Muſcles*, and covers the *Midriff*.

And Mediaſtinum.

The *Mediaſtinum* is a double Membrane, form'd by the Continuation of the *Pleura*, which comes from the *Sternum*, and goes ſtrait down through the middle of the *Thorax* to the *Vertebræ*, dividing it into two Cavities for the two *Lobes* of the *Lungs*, to the end that one *Lobe* may officiate, in caſe the other be hinder'd by a Wound, &c.

Of the Thymus.

The *Thymus* is a *conglobate Gland* in the upper Part of the *Thorax*, under the *Claviculæ*; it is large in Infants, and as they grow old, it grows leſs; its Uſe is ſuppoſed to be a *Diverticulum* to the *Chyle*, in the *Thoracic Duct* of a *Fœtus*.

Of the Diaphragm, or Midriff.

The *DIAPHRAGMA*, or *Midriff*, is compoſed of two Muſcles, which divide the *Thorax* from the *Abdomen*; the *Fibres* of theſe Muſcles tend towards the Centre, and terminate in a *Tendon*, or *Aponeuroſis*, which is taken for the *nervous Part* of the *Midriff*. It is cover'd with a Membrane from the *Pleura* above, and from the *Peritonæum* below.

Its Foramina, or Holes.

It hath Holes for the Paſſage of the *Vena Cava*, *Oeſophagus*, and *Nerves*; and between the Productions of the interior Part, paſſes the *Aorta*, *Thoracic Duct*, and *Vena*

Azygos. It is *convex* on its upper, but *concave* on its lower Side. Its Uſe is to aſſiſt in *Reſpiration,* by enlarging and contracting the Cavity of the Breaſt; and it alſo preſſes the *Stomach* and *Inteſtines* for the Diſtribution of the *Chyle.*

Of the Pericardium.

In the *Duplicature* of the *Mediaſtinum* lies the *Pericardium,* and is connected therewith; it is of a *conical Figure,* with its Point inſerted and fixed to the *Midriff.* It contains the *Heart,* and a Spoonful or two of a *clear Water,* to ſupple the Surface thereof, that it grow not dry with continual Motion. Its *Baſis* is pierced, for the Paſſage of Veſſels from the Heart, in five Places.

Its Water.

Of the Heart.

Its Subſtance muſcular.

The *Heart* is a compound Muſcle; its Subſtance is of Fibres, of the ſame Nature as thoſe of other Muſcles; there are ſeveral Orders of them in ſeveral Directions, whoſe Tendons are all in the *Baſis* of the Heart. It is of a *conical Figure,* with its *Baſis* upwards; it is faſten'd to the *Mediaſtinum* and *Pericardium,* and ſuſtain'd by the large Veſſels which bring and carry back the Blood. At the *Baſis* of the Heart are two *Auricles,* or *little Ears,* one on the right, the other on the left Side; in the right Ear opens the *Vena Cava,* in the left the *Vena Pulmonalis.* Beneath theſe two *Auricles,* and anſwering thereto, are two *Cavities* in the Body of the Heart, call'd *Ventricles,* whoſe Sides are very ſinuous and unequal. The Veſſels which enter and proceed from the Heart, are the

Its Figure.

The Auricles.

Its Ventricles.

Vena Cava, the *Arteria* and *Vena Pulmonalis*, and the *Aorta*, or *Great Artery*. The *Action* of the Heart is twofold; the firſt is call'd *Syſtole*, when the Fibres of the Heart contract the *Ventricles*, and expel the contained Blood into the *Aorta* thro' the Left Ear, and thro' the Right into the *Arteria Pulmonalis*. The ſecond is call'd the *Diaſtole*, which is when the Muſcle ceaſeth to act; its *Ventricles* then become large and wide, and are fill'd with the refluent Blood from the *Vena Cava* and *Pulmonalis*. This *Syſtole* and *Diaſtole* are common to the *Auricles* as well as the *Ventricles*, but are alternate to each other.

The Action of the Heart twofold, Syſtole, and

Diaſtole.

Of the Breaſts.

THE *BREASTS*, as to the Subſtance of them, are compoſed of a great Number of *Glands* of an *oval* Figure, which lie in a great Quantity of *Fat*; whoſe *excretory Ducts*, as they approach the *Nipple*, unite and form eight or ten ſmall Pipes, call'd *Tubuli Lactiferi*, which all terminate and open in the Extremity of the Nipple; whence the *Milk*, ſecern'd from the Blood by theſe Glands, flows out when the *Breaſts* are full, or upon *Suction*; which is the Uſe of the *Breaſts* in *Women*, as *Ornament* and *Similarity* is of the *Breaſts* in Men.

The Lactiferous Tubes.

Their Uſe.

Of the Lower Region, or Abdomen, divided into the Epigaſtrium,

WE are now arriv'd at the *Lower Region* or *Cavity* of the Body, call'd the *Abdomen*, or *Belly*. It is divided into three *Parts* or *Regions*, viz. (1.) The *Epigaſtrium*, which is the Upper-part, and reaches to within two Fingers breadth above the *Navel*; its two Sides are call'd *Hypochondria.* (2.) The *Regio Umbilicalis*, or Region of the *Navel*; this reaches to the ſame Diſtance below the *Navel* as above; its Sides are call'd *Epicolicæ.* (3.) The *Hypogaſtrium*, or *Lower Belly*; its Sides are call'd *Ilia*, and at Bottom *Inguina*, or the *Groins*, which are on each Side the *Pecten* or *Regio Pubis.* I ſhall mention all the *Viſcera* in the *Abdomen* as they appear upon raiſing the *Skin*, *Fat*, and *Muſcles* of the *Lower Belly*, in the following Order.

Regio Umbilicalis.

Hypogaſtrium.

THE *PERITONÆUM* firſt appears under the Muſcles; it is a thin and ſoft Membrane which incloſes all the Bowels of the *Abdomen*: It lines the Midriff, and is connected cloſely thereto, as alſo to the tranſverſe Muſcles, the *Linea Alba*, *Os Pubis*, *Os Sacrum*, and *Vertebræ* of the Loins. It has a Number of ſmall Glands which ſeparate a Liquor to ſupple the Inteſtines, and facilitate their Motions. 'Tis a Double Membrane, and contains in its *Duplicatures* the Umbilical Veſſels, Bladder, Ureters, and Spermatic Veſſels; to all which it gives a Membrane, or outer Coat, as alſo it doth to all the other *Viſcera* it contains. Its external *Lamina* has two *Productions*, like two *Sheaths*, which paſs out of the *Abdomen* with the *Spermatic Veſſels* to the *Scrotum* in Men, but in Women they give a Paſſage to the round Ligaments of the Womb.

Of the Peritonæum.

Its Duplicatures.

Its Productions

Of the Omentum or Cawl. When the *Peritonæum* is cut, the *Omentum*, or *Cawl*, preſents itſelf firſt to view. This Membrane is moſt delicate, fine, double, and interlarded with a great deal of *Fat* to greaſe the Superficies of the Guts, which it contains as in a *Bag*, and to facilitate their *periſtaltic* Motion. Its Mouth is tied on the Right to the *Liver*, on the Left to the *Spleen*; backwards to the *Duodenum* and *Colon*, and forwards to the Bottom of the Stomach and *Pylorus*: Below it lies looſe floating on the Surface of the Guts, whence the *Greeks* call'd it *Epiploon*. *Its Uſe.* Its Uſe is to encloſe the Guts and ſupple them, to promote *Digeſtion*, and help the *Concoction* of the *Chyle*, to ſtrengthen and ſuſtain *Veſſels*, *&c.*

Of the Oeſophagus, or Gullet. The *OESOPHAGUS*, or *Gullet*, is a long, large, and round Canal, which deſcends from the Mouth to the *Stomach* in the *Abdomen*, which it joins on the Left Side: It is compoſed of three Coats; the outer one is *membranous*, the two inner ones are compoſed of *Muſcular Fibres* in various Directions, by whoſe Action the Aliments are thruſt down into the *Stomach* with a kind of *ſpiral* or *periſtaltic Motion*. The upper End hereof, in the Mouth, is call'd *Pharynx.* the *Pharynx*, which is open'd to receive the Aliments by the Muſcle *Stylo-pharyngæus*, and ſhut again by the *Oeſophagæus* in Deglutition.

THE *STOMACH* receives the Aliments from the *Oeſophagus* by the Left Orifice, call'd *Cardia.* Its Figure is like that of a *Bag-pipe*, being long, large, wide, and roundiſh at the Bottom, but ſhorter and leſs convex above on its Upper-part. It conſiſts of four Coats. The firſt is a common *Tunicle* from the *Peritonæum* : The ſecond is *Muſcular*, being made of ſtrait and circular Fibres : The third is altogether *nervous*, very fine and thin, and of an exquiſite Senſe : The fourth, and inmoſt, is large, thick, and full of Plaits and Wrinkles, which prevent the Chyle from running out of the Stomach before it is digeſted. In this Coat are ſeveral Glands which ſeparate a Liquor that ſupples the Cavity of the Stomach, and helps the Concoction of the Aliments. The Uſe of the *Stomach* is *Digeſtion*, which is the Diſſolution and Separation of the Aliments into ſuch minute Parts as conſtitute a Liquor of a milky ſort, call'd *Chyle*, which, by the Action of the Stomach, aſcends through its right Orifice, call'd the *Pylorus*, into the firſt of the *Inteſtines*, where it enters the *Lacteal Veſſels*, and carries the nutritious Part of the Aliments into the Maſs of Blood.

Of the Stomach

Its Figure.

Its Coats.

Its Uſe.

The Chyle.

The Pylorus.

THE *Stomach*, as I ſaid, is join'd to, and communicates with the *Inteſtines* by its Right Orifice the *Pylorus*. The *Inteſtines*, or Guts, are a long, large, membranous, and nervous Tube or Pipe, which, by ſeveral Circumvolutions and Turnings, reach to the Fundament.

Of the Inteſtines.

What they are.

ment. They are knit all along to the Edges of a Membrane call'd the *Meſentery.* They are compoſed of three Coats; the firſt is common, from the *Peritonæum*; the ſecond is made up of two Orders of *Muſcular Fibres,* of which one runs ſtrait, the other in a ſpiral manner, round the Guts, which gives them their conſtant, uniform, *vermicular,* or *periſtaltic Motion*; the third, and inmoſt Coat, is made of thick ſhort Fibres, ſtanding *perpendicular* on the next Coat: This Coat, being much longer than the others, lies in Wrinkles and Folds call'd *Valvulæ Conniventes,* which are much larger in the great Guts than in the ſmall ones. The *inteſtinal Tube* is divided into ſix Parts or Guts, of which three are thin and ſmall, three thick and large. (1.) The firſt is call'd *Duodenum,* as being about *twelve* Fingers Breadth in Length; it is join'd to the *Pylorus* of the Stomach, and receives the *Bile* and *Pancreatic Juice* for preparing the *Chyle* to enter its *Lacteal Veins.* (2.) The *Jejunum* begins thence, and by ſeveral Turnings and Windings from the Right to the Left, and *vice verſâ,* is continued to the *Ileum* for the length of about twelve or thirteen Hands-breadth. In this the *Chyle* enters the *Lacteals* in greater Plenty. (3.) The laſt of the *ſmall Guts* is the *Ileum,* about twenty-one Hands-breadth long, which, by ſeveral Circumvolutions, fills all the lower Part of the *Umbilical Region.* (4.) The firſt *Great*

The Coats of the Guts.

Valvulæ Conniventes.

The three ſmall Guts.

The Duodenum.

Jejunum.

Ileum.

Great Gut is call'd *Cæcum*; but this indeed is only an Appendage of, (5.) The *Colon*, which is the greateſt and wideſt of all the Guts, and about eight or nine Hands-breadth long. It takes a Circumference round the other *Inteſtines*, and ends at laſt in, (6.) The *Rectum*, which goes ſtrait down to the Fundament, and its Extremity is call'd the *Anus*, which is always kept ſhut by the *Sphincter Muſcle*, which the Weight of the *Fæces* opens.

The Great Guts.
The Cæcum.
Colon.
Rectum.

THE *MESENTERY*, to which the *Inteſtines* are connected, as aforeſaid, is a fat Membrane of almoſt a circular Figure, and about four Fingers breadth and a half in Diameter. It is ſtrongly tied to the firſt three *Vertebræ* of the Loins; between its Coats run various Veſſels, and in the Middle is the *Pancreas Aſelli*, which, with others, receive the *Lympha* and *Chyle* from the *Lacteals*; of which more by and by.

Of the Meſentery.
Pancreas Aſelli.

THE *PANCREAS*, or *Sweet-bread*, is a Gland of the *conglomerate* Sort, ſituated between the Bottom of the *Stomach* and *Vertebræ* of the Loins. It reaches from the *Liver* on the right, to the *Spleen* on the left Side, and is tied to the *Peritonæum*; from which it receives its common Membranes. Its Subſtance is ſoft and ſupple; every *little Gland* has a ſmall excretory Veſſel, which, uniting all together, form one common Duct about the Size of a Quill, clear and tranſparent, which runs all along the Middle of

Of the Pancreas, or Sweet-Bread.
Its Subſtance.
Its common Duct.

The Uſe thereof.

of the *Pancreas,* and opens at its Lower-end into the Cavity of the *Duodenum* Gut, diſcharging therein the *Succus Pancreaticus* (or Liquor which this *Viſcus* ſeparates from the Blood) for diluting the Chyle as aforeſaid.

Of the Liver.

THE *LIVER* lies in the right *Hypochondrium*; it is convex on the upper Side, and concave on the under Side, which covers the *Pylorus,* Part of the *Stomach, Colon, Jejunum,* and *Omentum.* It is roundiſh and pretty thick; its Middle and Fore-part is divided into two by a *Fiſſure,* where the umbilical Veſſels enter. It is faſten'd chiefly to the *Diaphragm,* by a ſtrong Ligament. Its Subſtance is compoſed of ſmall Glands, which hang from the Branches of the Veſſels like Bunches of Grapes; theſe *Glandulæ* ſecern from the Blood that Liquor we call the Bile, which is of two Sorts; the one is depoſited in a little Bag, and is call'd *Gall,* and the Bag the *Gall-Bladder*; the other is call'd the *Bile,* which is drain'd from the Liver through the Duct call'd the *Porus Bilarius,* which after having paſs'd out of the Liver is join'd with another Duct from the Gall-Bladder, call'd *Ductus Cyſticus*; which two being now cover'd with a common Membrane make the common Duct call'd the *Choledochus,* which goes obliquely to the lower End of the *Duodenum,* or Beginning of the *Jejunum,* and there diſcharges the *Bile.*

Its Form,

And Subſtance.

The Gall.

The Gall-Bladder.

The Bile.

The Porus Bilarius.

Ductus Cyſticus.

Choledochus.

THE *SPLEEN* is ſituated in the left *Hypochondrium*, between the *Ribs* and *Stomach*; it is tied to the *Peritonæum*, *Midriff*, and *Oméntum*; of a Size and Colour well known. It is cover'd with two Membranes, the firſt common, the other fine and thinner: The Spleen is compoſed of an Infinity of Membranes which form little *Cells* and *Cavities*, which communicate with one another, and are always full of Blood of a dark Colour: The Uſe of the Spleen being, as is ſuppoſed, to contain the ſuperfluous Arterial Blood, as in a *Reſervoir*, and by a longer and ſlower Courſe to prepare the Bile for Separation in the Liver. *Of the Spleen.* *Its Subſtance,* *And Uſe.*

THE *KIDNEYS* are in Number two, one on each Side; have the Figure of *Kidney-Beans*; the Right is under the *Liver*, the Left under the *Spleen*. Their Subſtance at firſt is divided into ſeveral Lobes join'd together, which in *Adults* become more cloſe, and therefore their Superficies is equal and ſmooth. They are incloſed within two Membranes, and cover'd with much Fat. Their Subſtance is compoſed of an Infinity of *ſmall Glands*, every where interwoven in the *Net-like Inoſculations* of the fine Capillary Branches of their Arteries and Veins; from each ſmall Gland proceeds a long ſmall Tube, theſe Tubes compoſe the inner Subſtance of the *Reins*; as they approach the *Pelvis* or Baſon they form little Bundles, whoſe Extremities pierce the Membrane of the *Pelvis*, and there *Of the Kidneys.* *Their Subſtance.* *The Pelvis or Baſon.*

there pour in the *Urine* which the Glands of the Reins had ſecern'd from the Blood brought to them by the *Emulgent Arteries.* The *Pelvis* or Baſon is a Cavity in the Middle of the Kidneys containing the ſeparated Urine, and is form'd by the Dilatation of the *Ureters*, which are two long and ſmall Canals, one on each Side, leading from the Reins to the *Bladder*, where they are inſerted near its Neck; they convey the Urine from the Kidneys to the Bladder. They are compoſed of three Coats; the firſt common, the ſecond *Muſcular*, and the laſt Nervous and very ſenſible.

The Ureters.

Their Uſe.

Of the Glandulæ Renales.

IN the Middle between the *Aorta* and the Reins, a little above the Emulgent Veſſels, are ſituated the *Glandulæ Renales*; they are two in Number, one on each Side, wrapt up in ſome Fat; their Figure is various and irregular; and their Size that of a *Nux Vomica.* Their Uſe is not known.

Of the Bladder.

THE *Bladder* is ſituated in the *Duplicàture* of the *Peritonæum*, above the *Rectum* in Men, and the *Womb* in Women. It is tied to the *Navel* by the *Urachus* degenerated into a *Ligament*, its Sides to the Umbilical Arteries, and its Neck to the *Rectum* in Women. It is compos'd of Coats the ſame in Number and Nature as thoſe of the *Ureters*; around its Neck goes a ſmall Muſcle call'd *Sphincter Veſicæ*, which conſtringes the *Orifice* of the Bladder, that the Urine may not run out involuntarily. Its Uſe is to be a *Re-*

Its Coats.

Sphincter.

And Uſe.

ſervatory of the Urine, that it might not continually run from us, as it is ſeparated from the *Kidneys.*

Of the Genital Parts in Men.

THE *PARTS* of *GENERATION* in Men (which we are now arrived to) are as follow. *(1.)* The *Scrotum*, or Purſe that contains the *Teſticles*; which, beſides the Skin and *Memb. Adipoſa*, is compoſed likewiſe of many *fleſhy* and *muſcular Fibres*, by means of which it is generally contracted in a healthy State. The firſt of its proper Integuments is call'd *Tunica Vaginalis*, and contains the *Vaſa Præparantia* and *Deferentia*; it embraces looſely the Teſticles, adheres to the *Epididymis*; and on its Out-ſide is inſerted the *Cremaſter* Muſcle. The ſecond is that which covers immediately the Teſticles, and is call'd *Albuginea* or *White Coat*; it is ſtrong and thick, very ſmooth and equal; the Branches of the *Vaſa Præparantia* are finely wav'd upon it. (2.) The *Teſtes* or *Teſticles*: Their Subſtance is nothing but the Folding of ſeveral ſmall and ſoft Tubes, which run in ſhort Waves from the *Tunica Albuginea* to the Axis of the *Teſticles*, which there form larger Tubes; and theſe running to the End, pierce the *Albuginea*, and unite into one Canal, which by ſeveral *Turnings* and *Windings* form that Body (on the Upper-part of the *Teſticles*) which we call (3.) *Epididymis*, and which from thence continuing and aſcending upwards, forms the *Seminal Veſſels* call'd (4.) The *Vaſa Deferentia*,

The Scrotum.

Its Tunicles.

The Teſticles.

The Epididymis.

The Vaſa Deferentia.

The Veſiculæ Seminales.

Their Uſe.

The Proſtatæ.

Their Subſtance.

And Uſe.

Caput Gallinaginis.

tia, one from each *Epididymis*, of the Size of a Gooſe-Quill. As they aſcend within the *Tunica Vaginalis*, they make ſeveral ſhort *Turnings* and *Windings*, paſſing through the Abdominal Muſcles, and between the Bladder and Strait Gut; they grow wider as they approach (5.) The *Veſiculæ Seminales*, which are two in Number, one on each Side; they are cover'd with a thin Membrane, and their external Surface reſembles that of the Brains in ſome meaſure. They have two conſiderable Cavities divided into membranous Cells, which open diſtinctly by two little Orifices into the two *Vaſa Deferentia*, which depoſit the Seed therein till the Time of Coition. At which Time theſe Bladders being compreſs'd by a Muſcular Membrane, reſign and yield forth the Seminal Matter, which is again receiv'd by the *Vaſa Deferentia*, and carried by them through (6.) The *Proſtatæ*, or *Corpus Glanduloſum*, which is a Conglomerate Gland ſituated at the Neck of the Bladder; it is cover'd alſo with a Membrane of Muſcular Fibres. Its Subſtance is Veſicular and Glandulous, about the Size of a Wallnut; the little Glands ſeparate a clear mucilaginous Humour, which lies in the Veſicles till Coition, when it is carried into the Beginning of the *Urethra* by 11 or 12 excretory Ducts, which open about the Orifices of the *Vaſa Deferentia*, which are alſo here inſerted; and each Orifice has a Spongeous Border called *Caput Gallinaginis*, which hinders the involuntary running of the Seed. (7.) The *Penis* or Yard is a Member well known as to its Shape and Dimenſions; its Skin has a *Reduplication*, which makes a Hood call'd *Præputium*, to cover the Top call'd the *Glans*, and is tied thereto beneath by a ſmall Ligament call'd *Frænum*. The Subſtance of the *Penis* is compoſed of two long ſpongeous Bodies, call'd *Corpora Cavernoſa*; which ariſe from the *Os Pubis*, and a little after come cloſe together, being ſeparated only by a thin Membrane; and thus they proceed to the *Glans*, in the Middle of which they terminate. The external Subſtance of theſe Bodies is hard, thick, and white; the internal is compoſed of ſmall Fibres and Membranes, which form a ſort of looſe *Net-work*, on which the Branches of the Blood-Veſſels are curiouſly ſpread; and through the fine Capillaries the Blood (being ſtop'd in the larger Veſſels) ruſhes into thoſe Membranous Cells, by which Means the *Corpora Cavernoſa* become diſtended, hard, and the *Penis* erected. (8.) The *Urethra* is a long Pipe or Tube, which beginning at the Neck of the Bladder, proceeds under the *Os Pubis*, and turning up to the Roots of the *Cor. Caver.* is continued on the under Side to the End of the *Penis*; where, by its Orifice in the Top of the *Glans*, it diſcharges the *Urine* from the Bladder, and the Seed which it receives from the *Vaſa Deferentia* in Venery.

The Penis.

Præputium.

Glans.

Frænum.

Corpora Cavernoſa.

Their Subſtance.

The Urethra.

Its Uſe.

Of the External Parts of Generation in Women.
The Vulva.
Mons Veneris.
Labia.
The Nymphæ.
The Clitoris.
Here call'd the Crura Clitorides.
The Urethra.

THE *PARTS* of *GENERATION* in Women are both *External* and *Internal.* The *External* are (1.) The *Vulva* or *Great Chink,* ſituated below the *Os Pubis,* and cover'd with Hair in the Adult; above this there is a little riſing Part made by ſome Fat under the Skin, and is call'd *Mons Veneris,* or Mount of *Venus.* The *Labia* or Lips of the *Vulva* are only the Skin ſwell'd with Fat underneath; theſe being a little ſeparated, there appear (2.) The *Nymphæ,* one on each Side the Chink: They reſemble the Membranes which hang under the Throats of Pullets. There Subſtance is ſpongeous, and full of Blood-Veſſels, and therefore ſwell in the Act of Copulation. Their Uſe is to direct the Urine, to defend from external Injuries, and to increaſe the venereal Pleaſure. (3.) The *Clitoris,* a long ſmall and round Body, about the Size of the *Uvula,* ſituated in the upper Angle of the *Vulva,* and of the Figure and Make of the *Penis* in Men, having the *Corpora Cavernoſa,* the *Præputium* and *Glans,* like that; the *Glans* only appears without the Skin, it is of an exquiſite Senſe, and the *Stimulus Veneris* in Coition; it is perforated at the Top, but is not pervious, like the *Penis.* The *Clitoris* alſo ariſes from the *Os Pubis,* and its Muſcles erect it in Venery. (4.) A little below the *Clitoris* is the Orifice of the *Urethra,* of the Bigneſs of a Gooſe-Quill, by which the *Urine* only is convey'd from the Bladder. (5.) Between the *Sphin-*

cter

ſter Muſcle of the *Urethra*, and the inner Membrane of the *Vagina*, lie ſeveral little *Glands*, whoſe *excretory Ducts* are call'd *Lacunæ*; they pour a viſcous Liquor for Titillation into the lower Part of the *Vulva*. (6.) The *Hymen* is a thin Membrane, being only the circular Folding of the inner one of the *Vagina*; which being broke at the firſt Copulation, its Fibres contract in three or four Places, and form what are call'd *Glandulæ Myrtiformes*.

Glands.

The Hymen.

Glandulæ Myrtiformes.

Of the *internal Parts* of the *Pudendum Muliebre*, the firſt is (1.) The *Vagina*, or *Neck of the Womb*, which is a long, large, and round Canal, reaching from the *Vulva* to the *internal Orifice* of the *Womb*; it lies between the *Bladder* and the *Rectum*. Its Subſtance is compoſed of two Membranes; the inner of which is full of *Wrinkles* and *Sulci*, for the *Friction* and *Titillation* of the *Glans* of the *Penis*, to increaſe the Pleaſure of Coition, to detain the Seed, and that it may extend in the Time of *Geſtation*. The external Coat is of *muſcular Fibres*, which dilate or contract the Cavity of the *Vagina*, for adjuſting it to the Length and Bigneſs of the *Penis*. The Uſe of the *Vagina* is too well known to need mention. (2.) The *Matrix*, or *Womb*, is ſituated in the lower Part of the *Hypogaſtrium*, between the *Bladder* and *Rectum*, in the *Pelvis* of the *Sceleton*. It is in Figure of a Pear, from its internal Orifice to the Bottom; it is three Fingers Breadth

Of the internal Parts of Generation in Women.

The Vagina.

Its Compoſition.

The Matrix, or Womb.

Its Figure.

Breadth long, two broad, and almoſt as much thick; but changes very much, both its Figure and Size, in Child-bearing. It is cover'd with the *Peritonæum.* Its Subſtance is compoſed of fleſhy *muſcular Fibres* in a Net-like Texture, that it may contract for the Expulſion of the *Fœtus.* There are various *interpoſited Glands,* which ſeparate an Humour to lubricate the Cavity of the Womb. The *Mouth* of the Womb joins the upper End of the *Vagina,* with Protuberances in the Form of Lips, by ſome call'd *Os Tincæ,* or *Mouth of a Tench.* Near the Orifice within open ſeveral ſmall Ducts, which diſcharge a glutinous Matter, to ſeal up the Mouth of the Womb in *Geſtation.* The Womb is tied by two ſorts of *Ligaments,* viz. *Ligamenta lata,* or *broad*; and *Ligamenta rotunda,* or *round.* The firſt, like the Wings of a Bat, ariſe from the *Peritonæum*; the *Ovaria* are faſten'd to one End of them, and the *Tubæ Fallopianæ* to the other. The *round Ligaments* tie the Womb to the *Os Pubis,* and to the *Mem. Muſcle* on the Inſide of the Thigh. (3.) The *Vaſa Præparantia,* or *Spermatic Veins* and *Arteries,* as in Men, but ſhorter; they divide into two Branches; the ſmalleſt goes to the *Ovaria*; the biggeſt to the *Womb, Vagina,* and *Tubæ Fallopianæ.* (4.) The *Ovaria,* or *Teſticles,* are near half as big as Men's are; they are cover'd with a proper and common Membrane; the latter is from the *Peritonæum,* and covers all the *Spermatic*

Subſtance.

Orifice.

Os Tincæ.

Ligamenta lata and rotunda.

The Vaſa Præparantia.

The Ovaria.

tic Veſſels. The Subſtance is *fibrous* and *veſicular*; the ſmall *Veſicles* are call'd *Eggs*, and are of a different Size and Number in Women of different Ages. They are round, and full of Water, which hardens like the White of an Egg, if boiled. (5.) The *Tubæ Fallopianæ* (analogous to the *Vaſa Deferentia* in Men) are ſituated on each ſide the Womb; they ariſe from its Bottom by a narrow Beginning, and dilate in Form of a Trumpet to their Extremities, where they are again contracted into a ſmall Orifice; from whoſe Circumference they dilate into a pretty broad Membrane, which, looking as if torn at the Edges, is call'd *Morſus Diaboli*, or *Devil's Bite*. Their Cavity will here take in the End of one's little Finger; but at the Womb will ſcarcely admit of a Hog's Briſtle. Their Subſtance is of two Membranes, from the internal and external Coats of the Womb; and are in Length about four or five Fingers Breadth.

The Fallopian Tubes.

Morſus Diaboli.

As to the *Theory of Generation*, and the *Formation of the Fœtus in Embryo*, a ſhort Account muſt ſuffice. (1.) The *Vaſa Præparantia* in Men, are two *Arteries* and *Veins*; the *Arteries* carry the Blood from the *Aorta* to the *Teſticles*, which ſeparate the Seed, and the Blood is return'd by the *Veins* to the *Vena Cava*, and the left *Emulgent Vein.* (2.) The Seed thus prepared by the *Teſtes*, is by the *Vaſa Deferentia* carried into the *Urethra* of the *Penis*; and from thence, in Coition,

Of the Theory of Generation.

The Vaſa Præparantia in Men.

The various Steps in the Proceſs Nature takes for the Formation of the Fœtus.

tion, it is injected into the Womb. (3.) The ſpirituous Part of the Seed pervades the *Fallopian Tubes*, and the *Ligamenta lata* contracting, pull the Extremities of thoſe *Tubes* to the (4.) *Ovaria*, or *Teſticles*, where the Seed entering impregnates the *Egg*; which, from being *pellucid*, now ſoon becomes *opake*; 'tis cover'd with a thick yellow Subſtance, which preſſes it on all Sides, and excludes it through a little Hole in the middle; ſo that (5.) It again falls into the Orifices of the Tubes, which dilate ſufficiently for its Paſſage into the Womb. (6.) The Vital Warmth, Humours, and Virtue of the Womb, after ſome time, give Life and apparent Motion to the *Animalcule* in the Egg, which now begins to ſwell and dilate, as Seed in the Ground. (7.) Then the *Placenta* begins to appear on the external Coat of the Egg, like a little Cloud; and, at the ſame time, the *Spine* of the *Embryo* becomes viſible; and a little after the *Cerebrum* and *Cerebellum* appear like two ſmall Bladders, and the Eyes next ſtand gogling out of the Head; then the Beating of the Heart, call'd *Punctum Saliens*, is plainly to be ſeen; and the Extremities of the Body laſt of all appear. (8.) The Membranes which involve the *Fœtus*, are the ſame with the Coats of the Egg. The external is call'd the *Chorion*; it is pretty thick, and rough on its Outſide, to which the *Placenta* adheres. It embraces immediately (9.) The *Amnion*, or *internal Membrane*,

What Parts firſt appear.

The Chorion.

The Amnion.

brane, which is a fine and delicate Bag, full of a *clear Liquor*, in the middle of which the *Fœtus* ſwims. This Liquor is ſeparated from the Blood by the Glands of the *Amnion*, for the Nouriſhment of the *Fœtus*. (10.) The *Umbilical Veſſels*, conſiſting of *Arteries* and *Veins*, are wrapt up in a Production of the *Chorion* and *Amnion*; which, in the Form of a String, and about a Foot and half long, paſſes through the middle of the *Abdomen*, call'd the *Umbilicus*, or *Navel*; the Veins carry the *Maternal Blood* to the *Fœtus* for its Nouriſhment, and the *Arteries* re-convoy the ſuperfluous Part to (11.) The *Placenta*, which is a thick *Cake*, growing on the Outſide of the *Chorion*. The Branches of the *Umbilical Veſſels* are ſpread through all its Subſtance; which opening into the *Hypogaſtric Veſſels*, the Circulation is perform'd between the *Mother* and the *Fœtus*. (12.) Thus Things continue till the *Fœtus* is mature for *Expulſion*, which makes the Labour and Birth; the *Navel-String* being then divided, the *Fœtus* is releaſed from the Womb; then the *Placenta* falling off the Womb, makes the *Secundines*; as the Diſſolution of the *Anaſtomoſes* of the *Hypogaſtric Veſſels*, and thoſe of the *Placenta* occaſion'd the flowing of the *Lochia* before. Moreover, in the *Matrix* of Brutes there is another Membrane call'd the *Allantois*, between the *Chorion* and *Amnion*, on the oppoſite Side to the *Placenta*; which, in Form of a Bag, receives

The Umbilicus, or Navel.

The Placenta.

The Birth.

Of the Allantois in Brutes.

ceives the Urine from the *Fœtus* by a Pipe call'd the *Urachus*, ariſing from the Bottom of the Bladder, and paſſes out at the Navel with the *Umbilical Veſſels*; and 'tis ſuppoſed, or rather known, that Nature has alſo prepared the ſame Veſſels for the *Human Fœtus*. *The Urachus.*

Of Angiology, and its Subject. We are now come in our propos'd Method to the laſt Part of *SARCOLOGY*, which is call'd *ANGIOLOGY*, or the *Doctrine of the Vaſcular Part of the Body*; in which all the ſeveral Kinds of *Veſſels*, as *Glands*, *Bladders*, *Receptacles*, *Arteries*, *Veins*, *Nerves*, *Ducts*, and *Tubes* of all ſorts are deſcribed. But ſince in the foregoing Parts 'twas *unavoidable* to diſcourſe of the *Glands*, and therefore the moſt conſiderable having been already deſcrib'd, I ſhall only here obſerve in general, that

Of Glands, two ſorts. Conglobate, Of *Glands* there are two ſorts, *viz.* (1.) *CONGLOBATE GLANDS*; ſuch an one is a little ſmooth Body, wrapp'd up in a fine Skin, by which it is ſeparated from all other Parts; admitting only an Artery or Nerve to paſs in, and giving way to a Vein and excretory Duct to paſs out. Of this ſort are the *Glands* of the *Brain*, the *Lips*, and the *Teſticles*. (2.) *CONGLOMERATE GLANDS*; theſe are compoſed of many little *Conglobate Glands*, all tied together, and wrapp'd up in one common Membrane. Sometimes all their *excretory Ducts* unite and form one common Pipe; as the *Pancreas*, *Parotides*, *And Conglomerate.*

Parotides, &c. Sometimes ſeveral Pipes; as the *Glandulæ Lachrymales*, and *Proſtatæ*. Sometimes thoſe ſeveral Pipes communicate by croſs Canals, as the *Mammæ* of the Breaſts; and laſtly, ſometimes the little *excretory Ducts* pour their Liquor ſeparately into a common Baſon; as the *Kidneys*. For the peculiar *Structure of the Glands*, and the *Manner of Secretion* perform'd by them, ſee Dr. KEILL at large in his *Anatomy*, Page 62, to 71.

Of the Tubulary Veſſels.

THE *Tubular Veſſels* are of the following Kinds, *viz. Lacteal Veins, Lymphatic Ducts*, the *Thoracic Duct*, the *Arteries*, *Veins*, and *Nerves*; beſides thoſe other *Tubes* and *Ducts* already mentioned in *Splanchnology*. The *Arteries*, *Veins*, and *Nerves*, will be conſidered by themſelves; the other will moſt naturally come under our View in the following *Theory of the Animal Oeconomy*, or *Circulation of the Blood*.

Of the Animal Oeconomy.

THE *Animal Oeconomy* is effected and conſerved by the following *Gradations*. (1.) The *Aliments* being firſt minutely divided, and moiſten'd in the Mouth by *Maſtication*, deſcend the *Oeſophagus* to the *Stomach*, (2.) Where they undergo a State of *Digeſtion*, *Diſſolution*, and *Liquifaction*; which is call'd *Chylification*, or a *Reduction of them to Chyle*, as before deſcribed. (3.) From the *Stomach* the *Chyle* aſcends by the *Pylorus* into the firſt of the *Inteſtines*, the *Duodenum* and *Jejunum*;

Maſtication.

Chylification.

The Pancreatic Juice.

The Lacteals.

Lacteæ ſecundi Generis.

Receptaculum Chyli.

Lympha and Lymphæducts.

Thoracic Duct.

How the Blood aſcends therein

where (4.) it is diluted by the *Pancreatic Juice*, that it may more eaſily enter the Mouths of the *Lacteals*; and (5.) it is here mix'd with the *Bile* from the Liver, which ſheaths and blunts the *Acids* of the *Chyle*, and thereby further promotes its *Dilution* and *Separation* by the *Succus Pancreaticus.* (6.) From hence the *Chyle* now prepared is received into the ſmall *Orifices* of the *Lacteal Veins*, (while the groſſer Part is extruded by the great Guts out of the Body, as an Excrement) which are long and ſlender *Pipes*, and ſo fine, as to become inviſible when empty; they carry the *Chyle* to the *Veſicular Cells* of the *Glands* diſperſed up and down the *Meſentery:* And (7.) from them ariſe other *Lacteals* of a larger Size, call'd *Lacteæ ſecundi Generis*, which carry the *Chyle* immediately into (8.) The *Receptaculum Chyli*, or *Receptacle of the Chyle*; it is a ſmall *Bag*, ſituated between the *Aorta* and *Vertebræ* of the Loins. (9.) The *Chyle* here is again farther diluted and perfected by the *Lympha*, or clear Liquor, like Water, brought hither by thoſe Tubes call'd *Lymphæducts*, which come from the *Iliac*, *Lumbal*, *Meſenteric*, *Inguinal*, &c. *Glands*; they are very fine and pellucid; and both theſe and the *Lacteals* have *Valves* to prevent the returning of the Liquors. (10.) The upper Part of the *Receptacle* ſtretches itſelf out into a Tube call'd the *Thoracic Duct*, about the Bigneſs of a Gooſe Quill. Through this Duct the

Chyle is forced to aſcend up to the left *Subclavian Vein*, by the conjoint Action and Preſſure of the *Hypogaſtric Muſcles*, the *Diaphragma*, and the *Pulſation* of the *Aorta*; and in its way up it meets with new Recruits of *Lympha* from the *Lymphæducts* of the *Thorax*, *Head*, and *Arms*. (11.) The *Chyle* being pour'd into the ſaid Vein by one or two Orifices, cover'd with a Semi-lunar Valve, that the Blood may paſs over them, and the *Chyle* run from beneath it, it is here mixed with the Venal Blood, and carried by the deſcending Branch of the *Vena Cava* into the right *Auricle*, and then into the right *Ventricle* of the Heart. (12.) From hence it is expell'd, by the *Syſtole* of the Heart, into the *Arteria Pulmonalis*, by which it is carried to the Lungs. *(13.)* By the *Mechaniſm* of the Lungs, the *Sanguification* of the *Chyle* is perform'd; there it receives its laſt *Diviſibility* of Parts, its *red Colour*, and *Animal Faculty* and *Spirits*; and then *(14.)* it is return'd by the *Vena Pulmonalis*, thro' the left *Auricle*, into the left *Ventricle* of the Heart. *(15.)* Again, from thence it is expell'd into the Trunk of the *Aorta*, or *Great Artery*, and ſo paſſes through its *various Branches*, and *minute Ramifications*, to all the Parts of the Body; imparting its nutritious Part to the Whole for its *Growth*, *Nouriſhment*, and *Conſervation*. *(16.)* Laſtly, the *ſuperfluous Blood* is return'd by the Veins to the Heart, to receive a freſh Supply

Sanguification, how perform'd.

Supply of *Chyle*, and then goes on as before; by which Means there is kept up a *perpetual Circulation* of *Blood* and *Chyle*, the immediate Cauſe of *Animal Life and Growth.*

The Circulation of the Blood.

Of the larger Veſſels.

IT now remains, that we treat of the larger and more conſpicuous Veſſels of the Body; and that will be diſpatch'd under the three following Heads, *viz.* (1.) *NEUROLOGY*, which treats of the *Nerves.* (2.) *ARTERIOLOGY*, or the Doctrine of the *Arteries.* (3.) *PHLEBOTOLOGY*, which diſcourſeth of the *Veins.* Of theſe therefore in their Order.

Of Neurology, or Doctrine of the Nerves.

A Nerve, what.

NEUROLOGY delivers the Doctrine of the *Nerves.* A *Nerve* is a long and ſmall Bundle of very fine Pipes, or hollow Fibres, having their Origin in the medullary Subſtance of the Brain, and are all wrapp'd up in the *Dura* and *Pia Mater*; which laſt alſo covers every particular Fibre.

Of the Animal Spirits.

THE *Nerves* contain a fine Spirit, (as is ſuppoſed) which renders them the *immediate General Organ* of all *Senſation*, in the Manner as has been deſcribed; and they attend the *Arteries* through all the Body, that thoſe *Animal Spirits* may be kept warm, and moving, by the *continual Heat* and *Pulſe* of the *Arteries.*

The Diviſion of Nerves.

THE *Nerves* are divided into *Capital*, or thoſe which come of the Scull; and *Vertebral*, or thoſe which come out between the *Vertebræ.*

Of the Capital Nerves, 10 Pair.

THE *Capital Nerves* proceed from the *Medulla Oblongata*, and they are ten Pair. (1.) The *Nervi Olfactorii*, or *Olfactory Nerves*; they ariſe from the *Corpora Striata*, and paſſing the ſmall Holes of the *Os Cribriforme* are ſpread upon the Membrane of the *Os Spongioſum* in the Noſe. (2.) The *Optici*, or *Optic Nerves*: They ariſe from the *Corp. Striata*, and *Thalami Ner. Op.* and paſs thro' the foremoſt Holes of the *Os Sphænoides* into the Orbit, where piercing the Globe of the Eye, their Medullary Fibres are ſpread on the Vitreous Humour. (3.) The *Oculorum Motores*; which ariſe from the *Medul. Oblongata*, paſs through the *Os Sphænoides*, and give a Branch making a *Plexus* with the fifth Pair, and which ſend Twigs to the Optic Nerve and Tunicles of the Eye; and they give another Branch to the Muſcles of the Eye, call'd *Attollens*, *Deprimens*, and *Obliquus Minor*. (4.) The *Pathetici*, or *Pathetic Nerves*; they ariſe behind the *Teſtes*, go down by the Sides of the *Medul. Oblongata*, and paſſing through the *Foramina Lacera* of the *Os Sphænoides*, are wholly ſpent on the *Obliquus Major*. (5.) The *fifth Pair* ariſes from the Fore-part of the *Proceſſus Annularis*, and are the largeſt of all. They divide into ſeveral Branches, beſtowing ſome on the *Dura Mater*, ſome to the *Optic Nerve*, others on the Globe and Coats of the Eye, *Glandulæ Lachrymales*, and Frontal Muſcles; while other Branches furniſh the internal

Olfactorii.

Optici.

Oculorum Motores.

Pathetici.

Fifth Pair.

Parts of the Mouth, Jaws, Ears, Muſcles of the Tongue, *&c.* with Nerves. (6.) The *Sixth Pair* is ſmall, and entring the Orbit, is ſpent wholly on the Muſcle of the Eye call'd *Abducens.* It ariſes from the Sides of the *Proceſſus Annularis.* But a little before it goes out of the Scull it caſts back a Branch, which alone makes the Root of the *Intercoſtal Nerve*; which with ſeveral Branches of other Nerves, both *Capital* and *Vertebral*, forms ſeveral *Plexus*'s which furniſh Nerves to the Parts of the *Thorax* and *Abdomen.* (7.) The *Nervus Auditorius*, or *Auditory Nerve*; it ariſes from the Hind-part of the *Proceſſus Annularis*, and paſſing through the *Os Petroſum* it divides into two Branches, of which one is ſpent on the Internal Ear, the other on the External, and on the Tongue, Noſe, Lips, and Cheeks. (8.) The *Par Vagum*; it riſes from the Sides of the *Med. Oblongata*, which going out of the Scull is ſpent in divers Ramifications and Divarications on the Parts of the *Neck*, *Thorax*, and Muſcles belonging thereto. (9.) The *Ninth Pair* riſes from the *Med. Ob.* and paſſing through its proper Hole in the *Os Occipitis*, is diſtributed in the Body of the Tongue, its *Papillæ Rotundæ*, and the Muſcles of *Os Hyoides.* (10.) The *Tenth Pair* riſes from the Beginning of the *Med. Spinalis*, and going out of the Scull, it gives Branches to the firſt and ſecond Pair of the Neck, and a third to the Intercoſtal Nerve; and

Sixth Pair.

Ner. Auditorius.

Par Vagum.

Ninth Pair.

Tenth Pair.

and then is all ſpent on the Oblique Muſcles of the Head.

THE *Vertebral Nerves* are 30 Pair; they ariſe from the *Spinal Marrow*, and iſſue out between the *Vertebræ*, viz. (1.) *Seven of the Neck*; which are variouſly diſtributed to the Muſcles of the Head, Neck, Back, Arms, and ſome to the *Thorax* and *Diaphragm*. (2.) *Twelve Pair* of the *Back*; which are ſpent on the Muſcles of the Lower Belly, thoſe which lie on the Ribs, and ſome on the Arm. (3.) *Five Pair* of the *Loins*; which furniſh Nerves to the Muſcles of the Lower Belly, the *Inguen*, the *Penis*, and the Parts in the Baſon; others go to the *Thigh*, and are ſpent on its Muſcles. (4). *Six Pair* of the *Os Sacrum*; the great Branches of the firſt four Pair, with the laſt, and a Branch of the fourth of the Loins, make the *Nervus Sciaticus*, which is the greateſt Nerve in the whole Body. It gives Branches to the Parts of the Leg, Foot, and Toes. The Fifth and Sixth Pair are very ſmall, and diſperſed in the Bladder, *Sphincter*, and Parts of Generation.

Of the Vertebral Nerves.

Seven Pair of the Neck.

Twelve Pair of the Back.

Five Pair of the Loins.

Six Pair of the Os Sacrum.

ARTERIOLOGY diſcourſeth of the *Arteries*; theſe Veſſels are of a taper conical Figure, and their Uſe is to carry the Blood from the Heart to all Parts of the Body. Each *Artery* is compos'd of three Coats; the firſt ſeems to be a Web of fine Blood-Veſſels and Nerves for nouriſhing the Coats of the Arteries; and the ſecond is made up of *Cir-*

Of Arteriology.

The Arteries, what.

Their Coats.

cular or rather *Spiral Fibres*, which, having a ſtrong *Elaſticity*, are the immediate Cauſe of the *Arterial Pulſation*, and which are conſtantly kept in Action by the *Impetus* of the Blood, which it receives from the expulſive Motion of the Heart. The *Pulſes* of the Arteries are equal to the Beats of the Heart in Number; but when the Heart contracts, the Arteries are dilated. The third or inmoſt Coat is a fine, denſe, tranſparent Membrane, every way proper for its deſtin'd Uſe. As the Arteries grow, the Coats grow thinner, and the Coats of the Veins ſeem to be only a Continuation of the Coats of the Capillary Arteries.

Their Pulſation how cauſed.

Of the Aorta.

THE Blood is immediately receiv'd from the Heart by the Trunk of that great Artery call'd the *Aorta*, which coming from the left Ventricle ſends two Branches, call'd *Coronariæ*, to the Heart, before it pierces the *Pericardium*. But after it has pierced it, it aſcends a little, and turning downwards forms the *Aorta Deſcendens*.

Coronariæ.

The Aorta Deſcendens.

FROM the upper Side of this Crook, there aſcend three Branches, *viz.* the Left *Subclavian* and *Carotide*, and the Right *Subclavian*, from which immediately ariſes the Right *Carotide*.

The Subclavian Arteries.

THE *Subclavian Arteries* on each Side ſend out the *Mediaſtine*, *Mammary*, *Cervical*, and *Vertebral* Branches; beſides a Branch to the Muſcles of the Neck, Breaſt, and to the *Glandulæ Thyroides.* After the *Subclavians*

vians have paſs'd through the *Muſ. Scalenus*, they are call'd the *Axillary Arteries.*

The Carotides.

THE *Carotide Arteries*, beſides ſeveral ſmall ones, ſend four principal Branches to the Parts and Muſcles of the Throat, Mouth, and external Part of the Head. The *Carotide* then paſſes into the Cavity of the *Cranium*, through the Canal in the *Os Petroſum*, and ſends Branches to the *Meninges*, *Rete Mirabile*, *Plexus Choroides*; and then is ſpent through all the Circumvolutions of the *Brain* and *Cerebellum.*

The Axillaries.

THE *Axillary Artery*, having pierced the *Scalenum*, deſcends on the Inſide of the Arm; and, at the Bending of the Elbow, divides into two Branches, the *Internal* and *External*, which go down the *Cubitus* to the Hand and Fingers. In its Progreſs it ſupplies the Muſcles, and Parts adjoining, with proper Branches and Capillaries.

Of the Aorta Deſcendens.
Bronchials.

THE *AORTA DESCENDENS* ſends out firſt the *Bronchial Artery* to the *Wind-pipe* and its Branches; then as it deſcends the *Thorax*, it ſends out on each Side the *Intercoſtal Arteries.* To the *Diaphragm* it gives the *Phrenic Branch*; and the *Cæliac* is the firſt it ſends out when it enters the *Abdomen*, and is ſpent on the *Viſcera* contain'd therein; the ſeveral Branches taking their Names from the Parts.

Intercoſtals.
Phrenic.
Cæliac.

Meſentericæ.
Renales.

THEN the *Aorta Deſcendens* ſends out the *Meſenteric Branches* to the *Meſentery*; the *Renales* to the *Glandulæ Renales*, and Fat about

Emulgents. *Spermatics.* *Lumbales.* about the Reins; the *Emulgents* to the Reins; the *Spermatics*, or *Vaſa Præparantia* to the *Teſticles*; and the *Lumbales* to the Muſcles of the Loins.

Of the Iliac Arteries. WHEN the *Aorta* is come to the *Os Sacrum*, it divides into two great Branches call'd the *Iliac Arteries*; and from the Angle they make, ſprings out a ſmall Artery call'd *Sacra*, becauſe ſpread on the *Os Sacrum*. The *Iliac Arteries* divide again into the *internal* and *external Iliacs.*

The internal Iliacs. FROM the *internal Iliac* ariſes the *Hypogaſtric Artery*, which is diſtributed to the *Bladder*, *Rectum*, the internal Parts of Generation, and all other Parts in the *Pelvis*, or Baſon. Then it gives two conſiderable Branches, which go out of the lower Belly, and are ſpent on the Muſcles call'd *Glutæi*, *Obturatores*, &c.

The external Iliacs. THE *external Iliac* leaving the Cavity of the *Abdomen*, ſends out the *Epigaſtric Branch* to the *Muſ. Rectus*; and below that the *Pudenda* to the Privities. After this it deſcends along the Thigh, and is call'd the *Crural Artery*; whence, by ſeveral Branches and Diviſions, it goes to the *Leg*, *Foot*, and *Toes*, where their *Capillaries* are ſpent upon, and loſt in the Muſcles and other Parts of the ſame.

Of Phlebotology. The Veins, what. *PHLEBOTOLOGY* gives an Account of the *Veins* of the Body. The *Veins* (as was ſaid) are only the Continuation of the extreme *Capillary Arteries* reflected back towards the Heart, and uniting their Chanels as they approach it, till at laſt they all form three large *Veins*, viz. (1.) The *Vena Cava Deſcendens*, which brings back the refluent Blood from all Parts above the Heart. (2.) The *Vena Cava Aſcendens*, which brings the Blood from all Parts below the Heart; and (3.) The *Vena Porta*, which carries the Blood to the Liver.

The Vena Cava Deſcendens.

Aſcendens.

Vena Porta.

CONTRARY to the Motion of the Blood, we begin with the great *Trunks* of the Veins, and proceed to the *Capillaries*. The Trunk of the *Cava Deſcendens* joins the Trunk of the *Cava Aſcendens*, and both together open into the right *Auricle* of the Heart.

THE *Cava Deſcendens*, where it joins the *Auricle*, receives the *Coronary Vein* of the Heart. As ſoon as it pierces the *Pericardium*, it receives the *Azygos*, or ſingle Vein, which runs along the right Side of the *Vertebræ* of the *Thorax*. It next receives the upper *Intercoſtal Vein*, and *Pneumonic Branch*, which accompanies the *Bronchial Artery*. When the *Cava Deſcendens* comes to the *Clavicles*, it is divided into two Branches call'd the *right* and *left Subclavian Veins*; which receive ſeveral other Branches, as the *Mammary*, *Mediaſtinal*, *Cervical*, *Vertebral*, *Muſcular*, &c. as in the Arteries.

The Cava Deſcendens.
Coronaries.

Azygos.

Intercoſtals.
Pneumonics.

Subclavians,
Mammary, &c

ALSO when the *Subclavian Branches* are come out of the *Thorax*, they are called *Axillary*; and receive the internal and external *Scapular Veins*; then they are divided into

Axillares.

Scapulares.

Cephalics. *Baſilics.* two Branches; the ſuperior call'd the *Cephalic*, and the inferior the *Baſilic Vein*, which are the principal Veins of the *Arms* and *Hands*.

The Jugular Veins. THE *Subclavian Veins* alſo receive the external and internal *Jugulars*, which go to the Head: The external going to the Muſcles and Parts of the Head; as the Mouth, Ears, Face, Forehead, and *Scalp*. The internal *Jugulars* aſcend to the Baſis of the *Cranium*, which they paſs; and dividing into two Branches, the greateſt goes to the *Lateral Sinus's* of the *Dura Mater*, and the leaſt to the *Pia Mater*.

The Cava Aſcendens. THE *Cava Aſcendens*, in a large *Trunk*, goes to the *Diaphragm*, where it receives the *Phrenic Branch*; when it has pierced the *Diaphragm*, it receives ſome large Branches from the Liver; and accompanying the great Artery to the fourth *Vertebra* of the Loins, it divides into the two great Branches call'd the *Iliacs*. But before this, it receives the *Renal*, *Emulgent*, *Spermatic*, and *Lumbal Veins*; and at the Angle of Diviſion, the *Venæ Sacræ*, which go to the *Medulla* of the *Os Sacrum*.

The Iliacs. THEN each *Iliac Vein* divides into two Branches, the *Internal* and the *External*. *Internal.* The *Internal* receives two Branches from the Muſcles of the Thigh, and the Parts of the *Hypogaſtric* Region. The *External Iliac* receives the *Epigaſtric* and *Pudenda*, before it goes out of the *Peritonæum*, and afterwards the *Muſc. inferior.*

External. THE *exterior Iliac* now deſcends the Thigh and Leg, and is call'd the *Crural Vein*; and receives ſix Branches more, *viz.* the *Saphæna*, the *Iſchias minor*, the *Muſc. extern.* the *Poplitæa*, the *Suralis*, and the *Iſchias major*; all which proceed from the ſeveral Parts of the Thigh, Leg, Feet, and Toes.

Of the Vena Porta. WE are now come to the third great Vein, the *Vena Porta*, which carries the Blood from the *Stomach*, *Spleen*, *Pancreas*, *Omentum*, and *Inteſtines*, to the Liver, for the Secretion of the Bile. As it ariſes out of the Liver, it receives two ſmall Veins from the Gall-Bladder, call'd *Cyſticæ Gemellæ*, one from the Stomach, call'd the right *Gaſtric Vein*; then advancing a little to the Left, its Trunk divides into two Branches, *viz.* the *Splenic* and *Meſenteric Veins.* The *Splenic Vein* receives the *Gaſtrica major* and *minor*; and afterwards three Branches more, from the *Omentum*, *Colon*, and *Pancreas.* Then the *Splenic Vein* divides into two Branches; the *ſuperior*, which goes to the *Spleen*; and the *inferior*, which goes partly to the *Spleen*, the *Omentum*, and *Stomach.*

THE *Meſenteric Branch* of the *Porta* firſt receives the right *Gaſtro-Epiploic*, and *Inteſtinal Branch*, and ſome from the *Pancreas*; then it divides into three great Branches, which ſpread into an Infinity of other *Capillary*

lary ones, through the Duplicature and Subſtance of the *Meſentery*, where they are call'd the *Meſeraic Veins*; and others on the *Anus* form the internal *Hæmorrhoidals.*

Of Hygrology. *HYGROLOGY* is the laſt *Great Part* of *Anatomy*; the Province of which is to deſcribe the *Nature* and *Kinds* of the ſeveral *Fluids* or *Humours* of the Body, which are as follow.

Of the Blood. THE *BLOOD* is the moſt conſiderable and obvious of all the *Fluids* of the Body; concerning which I ſhall obſerve, (1.) That this noble and vital Stream hath its Original in the *Fœtus* from *Nature's ſecret Operation.* (2.) That it is the *Medium* appointed by Nature for conveying of *Nouriſhment* to all Parts of the Body. (3.) That this Expence of the *nutritious Part* is conſtantly ſupplied, and the *Maſs of Blood* renewed, by means of the *Chyle*, in the manner before mentioned. (4.) That it is found, when viewed with a *Microſcope*, to conſiſt of *ſmall red Globules*, ſwimming in a thin tranſparent *Serum*; and that each *Globule* is made up of *ſix leſſer ones*, which reſolved aſſume the Nature of pellucid *Serum*, of various Colours. (5.) The *Mixture*, *Fluidity*, *Heat*, and *Redneſs* of the Blood, is only effected and preſerved by the *Circulation* thereof. (6.) The *Quantity* of the Blood in the human Body is variouſly computed, from ten to twenty-five Pounds. *(7.)* That each Ventricle of the Heart will contain about an Ounce of Blood, and the Heart contracting about 4000 times an Hour, there will paſs through the Heart every Hour about 4000 Ounces, which is 250 *lb.* of Blood. (8.) That the *Velocity* of the Blood's Motion is computed to be at the rate of 52 Feet in a Minute in the great Artery; and that it is there 5233 times greater than its Velocity in the ſmalleſt *Capillaries.* (9.) The *Veins* are to the *Arteries* as 441 to 324, and therefore the Blood moves above 7116 times ſlower in the *Capillary Veins* than in the *Aorta.* (10.) The Blood, by a *Chymical Analyſis,* yields much *Volatile Salt*; ſome *Phlegm* and *Sulphur*; a little *Earth*; and but little or no *fix'd Salts.* *Acids* coagulate it, but *Alcalies* diſſolve in it.

THE *SERUM* of the Blood is a thin, aqueous, yellowiſh, and ſomewhat ſaline Fluid; its Particles, when view'd with a *Microſcope,* are ſo exceeding ſmall, that it appears no other than an *Homogeneous Lymph,* though it is certain it conſiſteth of the greateſt Part *Water,* a moderate Quantity of *Salt,* and a little *Sulphur*; and is of that Quality, that a ſmall *Heat* will *coagulate* it. Its Uſe is to be a *Vehicle* to, and a *Diluter* of the pure *Blood.* *Of the Serum.*

URINE is a Fluid ſecreted from the Blood by the *Mechaniſm* of the Kidneys. It conſiſteth, (1.) Of *Water,* in the greateſt Plenty. (2.) Of a moſt ſharp, ſubtile, and volatile *Salt,* nearly approaching to an *Al-* *Of Urine.*

cali. (3.) Of a moſt ſharp, fine, and volatile *Oil*, nearly putrid. (4.) A moſt fine, volatile, and attenuated *Earth.* The *Oil* is ſo ſubtile, fetid, and attenuated, that it will intimately mix with Water, and cannot be eaſily ſeparated; and therefore may not improperly be eſteemed a *Spirit.* Its *Salt* is of a moſt *ſaponaceous Nature,* and peculiar to itſelf; being neither an *Acid*, *Alcali*, *Ammoniac*, or *Muriatic Salt.* The *Earth* is ſo fine, as to lie inviſibly latent in the *Urinary Compoſition*; but when ſeparated therefrom, is *ſcentleſs*, *taſteleſs*, *inſolubile*, *white* and *fixed.*

Of Milk.

THE *MILK* is a Fluid ſeparated from the Blood by the Glands of the *Breaſts.* It is a Subſtance conſiſting of *Chyle*, and other ſmooth, oily Humours, proper to the Female Sex, and well mix'd in Circulation. The Elementary Parts of Milk are, (1.) *Water*, as is evident from its great *Seroſity*, or the Quantity of *Whey* it yields in making Cheeſe. (2.) *Salt*, but neither *Acid* nor *Alcali*, when the Milk is new; but by Digeſtion it will turn very acid. (3.) *Oil*, in a very great Quantity, which riſes to the Top of itſelf, and there makes that unctuous, butyraceous Part which is call'd *Cream*, and of which *Butter* is made. (4.) A *Spirit.* (5.) A groſs, fibrous, caſeous Part, which immediately *coagulates*, or turns to *Curds*, by a Mixture of *Acids*, as in making Cheeſe; and this Subſtance is capable of the Hardneſs of Stone, by Preſſure and Evaporation of its

Moiſture; ſo that it is no wonder Bones made out of Milk are of that *Hardneſs*, *Strength*, and *Firmneſs* we find them. (6.) An *Earth*, as all Subſtances have; but I find no peculiar Properties mentioned of this.

MILK is but the *Chyle* a little more concocted and ſaturated with Salt, which renders it convertible into *Curd*; which neither *Chyle*, nor any *vegetable Emulſion* is capable of. *Milk*, therefore, is an oily vegetable Matter, circulated firſt in Plants, then in Animals; where, if it finds no way to paſs off in its natural Form, as in the Breaſts of Women it does, it turns to *Fat* in part, and partly goes off in *Sweat* and *Urine*; as is the Caſe in Men, who generate Milk as well as Women, tho' their Veſſels are not ſo well diſpoſed to ſeparate it from the Blood.

THE Milk of ſeveral Animals differs but little, as to its *Smell*, *Taſte*, and other Properties. The Sweetneſs, Virtue, and Goodneſs thereof, riſes from the following Animals, *viz.* *Cows*, *Sheep*, *Goats*, *Mares*, *Aſſes*, *Women*, whoſe Milk is the ſweeteſt and beſt of all; as that of *Cows* is the pooreſt.

Of the Saliva, or Spittle.

THE *SALIVA*, or *SPITTLE*, is a Liquor ſeparated from the Blood by the Glands of the Mouth, as related. It is an Humour diluted; pellucid; inſpiſſible by Fire; almoſt devoid of *Taſte* or *Smell*; yielding a tenacious Froth when ſhook; glandulous, as being ſecreted from the pure Arterial Blood; more fluid, copious, and acrid in an hungry Perſon; very acrid, penetrating, detergent, and reſolvent in thoſe who have faſted long; procuring and increaſing Fermentation in Vegetable Meals, Juices, and Syrups: In Brutes and Men, if in Health or Sleeping, it is ſwallow'd; it conſiſts of *Water*, and much *Spirits*; alſo of *Oil* and a little *Salt* mixed together in a ſort of *Soap*, in ſome few People. In Manducation, the *Saliva* being expreſs'd, and accurately mix'd with the attenuated Aliments, cauſeth (1.) That they become capable of being *aſſimilated* to the Body in *Nutrition.* (2.) A Mixture of *oily* with the *aqueous Parts.* (3.) A Solution of the *Saline.* (4.) Fermentation. (5.) An Alteration of *Taſte* and *Smell.* (6.) The Excitation of an Inteſtine Motion. (7.) Momentaneous Refection; and (8.) A Reliſh of Things in themſelves inſipid. Such is the Nature and Uſe of this moſt neceſſary Humour.

Of the Pancreatic Juice.

THE *PANCREATIC JUICE* is ſecern'd by the Glands of the Sweet-Bread, from the Blood brought thither by the *Cæliac Arteries.* It is made copiouſly and conſtantly; is clear and limpid; is almoſt inſipid, or a little ſaltiſh; it is neither *acid* nor *alcaline*; is moſt of all like *Spittle* in its Riſe, Veſſels, and Effects. The Uſe of it (as before ſaid) is to dilute the *Chyle*, and render it miſcible with the *Blood*, to adapt it for its Paſſage through the *Lacteals*; to mollify and ſooth Acrimonies; to alter the Viſcidity, Bitterneſs, and Colour of the *Bile*, and to mix it throughly with the *Chyle*; and laſtly, to alter and change the Taſtes, Odours, and particular Qualities of the *Aliments*; ſo that they become almoſt of one Nature, and make a more *Homogeneous Mixture* for the Blood.

Of the Gall and Bile.

THE *BILE* is ſecreted from the Blood by the Liver; and is of two Kinds, as has been taken notice of: The firſt is call'd the *Cyſtic* or *Veſicular Bile*; and vulgarly the *Gall*, which is collected in a Bladder. This is a kind of inimitable liquid *Soap*, conſiſting of a very ſubtile, animal *Oil*, mixed up with an exceeding volatile *Salt*, whoſe ſolutive Power manifeſts itſelf, by rendering Oils diſſolvable in Water; alſo it diſſolves, attenuates, and renders homogeneous, Roſins, Gums, and ſuch tenacious Bodies. It is neither *acid* nor *alcaline*; but is a ſort of ſaponaceous Compoſition of *Oil*, *Salt*, and much *Spirit* diluted with *Water*; is not inflammable, unleſs firſt dried; and is the *ſharpeſt* of all the Humours of the Body.

THE ſecond ſort is called the *Hepatic Bile*, and is of a different Taſte, Smell, Colour, and Conſiſtency, from that in the *Gall-Bladder*, as being thinner, more pellucid, of a lighter Yellow, and leſs bitter and acrid, ſays the Great *Boerhaave*; but Dr. *Keill* aſſerts the contrary, from an Experiment of *Malphigius*. The Uſe of the *Bile* is to ſheath or blunt the Acids of the *Chyle*, becauſe they being intangled ſo in its *Sulphurs*, thicken too much to be ſufficiently diluted with the *Pancreatic Juice*; this appears, becauſe great Quantities of *acid Salts* have been obſerv'd among the *Aliments* in the *Stomach*; but none can be found in the *Chyle*, after it has paſs'd the *Duodenum*.

Of the Lympha *LYMPHA*, or *LYMPH*, is the moſt clear, limpid, depurated, aqueous Part of the Blood, abounding with *volatile Salt*, *Spirits*, *Sulphur*, and *Water*; various are the Glands which ſecrete it from the Blood and the Veſſels (call'd *Lymphæ-ducts)* which carry it to the *Chyliferous Ducts*; it is the ultimate Diluter of the *Chyle*, and gives it its proper and requiſite Conſiſtence to enter, mix, and circulate with the Blood, and to be convertible into the ſame. It is thinner and clearer than *Spittle*, and more aqueous than *Serum*; for if it be ſet in a Spoon in the Cool, it will not turn to a *Jelly* like that.

Of the Semen. THE *SEMEN*, or *SEED* of Males, is a Thing of a delicate Nature, and is thus generated: The Blood being carried from the Emulgent Arteries by the *Vaſa Præparantia*, through long anfractuous Windings and Circumvolutions, to the *Epididymis* and Subſtance of the *Teſticles*, where the *Seminal Part* is ſecern'd by the proper glandulous Subſtance of thoſe two Bodies, and is call'd the *Semen*, or *Seed*; it is farther perfected in the ſinuous Cells of the *Veſiculæ Seminales*, and is ultimately elaborated as it paſſes thro the Glands of the *Proſtatæ*, at the Time of *Coition.* If this Humour be view'd with the beſt Microſcopes, when recent and diluted with a little warm Water, it will appear to conſiſt of innumerable, ſmall, oblong, living Creatures, like Tad-poles, or little Eels, ſwimming in the other Part of this Humour; and this not only in the *Human Sperm*, but that of *Quadrupedes*, *Birds*, *Fiſh*, *Inſects*, &c. and that at all Times. Theſe *Animalcules* are ſo ſmall, that it is computed 3000000000, i. e. *Three Thouſand Millions* of them are not equal to a Grain of Sand, whoſe Diameter is but the hundredth Part of an Inch. Theſe Animals are now by all very probably ſuppoſed to be the original *Stamen*, or Rudiments of the future Body, whether of Men, or other Animals. The Part of the *Semen* in which theſe ſmall Creatures ſwim, is a ſmooth, viſcous, inactive Humour, moſt different from the Nature of Animal Spirits, an oily volatile Salt, a hot and fermented Liquor, as it has been formerly ſuppoſed to be.

Of the Animal Spirits.

THE *ANIMAL SPIRITS* are ſuppoſed to be ſeparated from the Blood in the medullary Subſtance of the Brain, whence they pervade and glide through the fine inviſible Canals of the *Nerves.* This fine Fluid contains nothing of a Salt or Oily Nature, nor can it be compared with the vegetable Spirits of Plants; but moſt properly and aptly to a moſt ſubtile Water, which, with reſpect to its Miſcibility, Mobility, Solidity,

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Plate I.

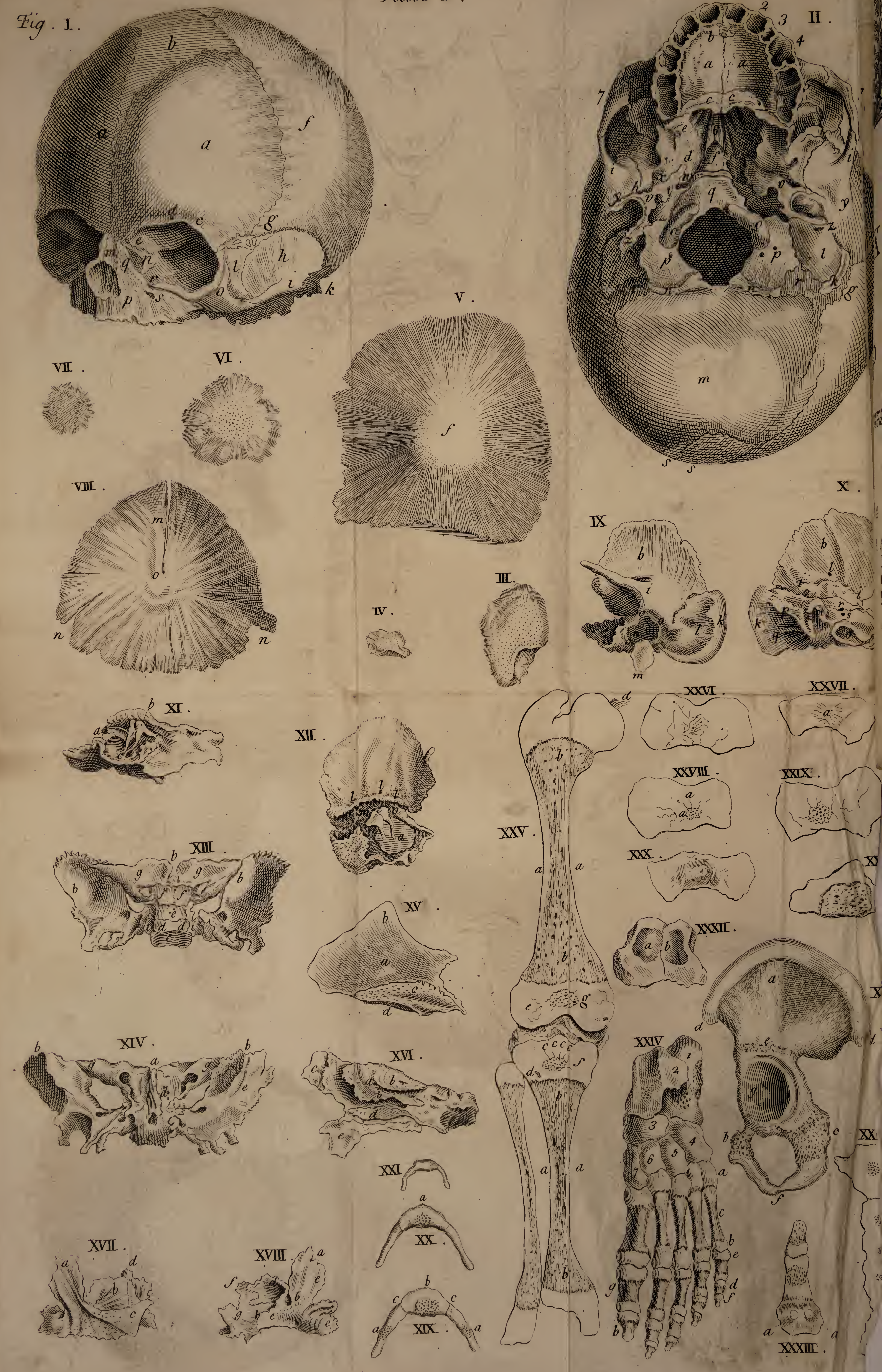

Fig. I.
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THE
EXPLANATION
OF THE
PLATES.

PLATE I.

Fig. I. IS the Scull of a *Fœtus*, of nine Months, in its *natural Size.*

A. A. The two *Frontal Bones*, which unite in *Adults.*
B. The *Fontanella*, which is alſo loſt in that Union.
C. The *Superciliary* Ridge.
D. The Hole for the *Ophthalmic Branch* of the fifth Pair of Nerves.
E. The *Orbital Proceſs* of that Frontal Bone.
F. The *Os Parietale.*

G. The anterior Part thereof, which reaches over the Temporal Proceſs of the *Sphenoide* Bone.
H. The *Os Squamoſum.*
I. Its *Zygomatic* Proceſs.
K. Part of the *Os Petroſum.*
L. The *Temporal Proceſs* of the *Sphenoide Bone.*
M. *Os Naſi*, or Bone of the Noſe.
N. *Os Unguis.*
O. *Os Malæ*, or Cheek-Bone.
P. The Upper *Jaw-Bone.*
Q. Its *Naſal* Proceſs.
R. Its *Oricular* Proceſs.
S. The Hole call'd *Orbiter externus.*

Fig. II. Repreſents the Baſis of the Scull of a full-grown *Fœtus.*
A. A. The *Palate* Proceſſes of the Upper Jaw-Bones.
B. A *Suture* that runs acroſs the Fore-part of the *Palate.*
1. 2. 3. 4. 5. } The *Cavities* in which the Teeth are contain'd in their Bags.
6. The Hind-part of the *Vomer.*
C. C. The Bones of the Palate.
D. The *Pterygoide* Proceſs of the *Sphenoide* Bone.
E. The Hook of its inner *Ala*, or Wing.
F. Part of the Body of the *Sphenoide* Bone.
G. Part of the *Os Parietale.*
H. The *Fiſſure*, through which paſſes the *Chorda Tympani.*
I. The *Zygomatic Proceſs* of the *Os Squamoſum.*
7. The ſame-named Proceſs of the *Os Malæ.*
K. The Cartilage at the End of the *Os Petroſum.*
L. The Part of the *Os Petroſum*, on which afterward grows the *Maſtoide* Proceſs.
M. The firſt Bone of the *Occiput.*
N. N. The Cartilages joining it to the ſecond and third Bones of the *Occiput.*
O. O.

P. P.	The ſecond and third Bones of the *Occiput.*
Q.	The fourth Bone thereof.
R. R.	The Cartilages which join the *Occipital* Bones to the Hinder-part of the *Os Petroſum.*
S. S.	Two triangular Bones, or *Oſſa Triquetra.*
V.	The Entrance of the *Carotide* Artery in the *Os Petroſum.*
W.	Its Exit out of the ſame Bone.
X.	The Entrance of the *Tuba Euſtachiana* into the anterior Part of the Cavity of the *Tympany.*
Y. Z.	The two Ends of the *Os annulare*, or circular Bone.
Fig. III.	Shews the *Os Frontis*, or Frontal Bone of a *Fœtus* of four Months after Conception, a little magnified, the better to ſhew its *Texture.*
Fig. IV.	The *Frontal Bone* of a *Fœtus* between three and four Months.
Fig. V.	An *Os Parietale* of a *Fœtus* of a little more than ſix Months.
F.	The Riſing in its Middle, perfectly ſmooth, and whence the Fibres ſhoot like *Radii.*
Fig. VI.	An *Os Parietale* of a *Fœtus* of four Months, a little magnified, as Fig. III.
Fig. VII.	Another of a *Fœtus* of two Months.
Fig. VIII.	The Inſide of the firſt Bone of a full-grown Fœtal *Occiput.*
M.	The Slit at its ſuperior Angle.
N. N.	The Notches at its Lateral Angles.
O.	A *Groove* from the Bottom of the Upper Slit to the Middle of the Bone.
Fig. IX.	Is an external View of a *Temporal Bone* of a full-grown *Fœtus.*
H.	The *Os Squamoſum.*
I.	The Root of the *Zygomatic* Proceſs.
K.	The Cartilage ſurrounding.
L.	The Hinder-part of the *Os Petroſum.*

M. The Membrane which covers the *Membrana Tympani*, peculiar to the *Fœtus.*

N. The *Membrana Tympani.*

O.O.O. The *Annulus.*

Fig. X. An *inſide View* of the ſame Bone.

H. The *Os Squamoſum.*

I. I. The Ridge by which the *Squamoſum* is joined to the *Petroſum.*

L. A ſmall Hole, ſeldom, if ever, ſeen in Adults.

M. A Ridge made by the ſuper. ſemicircular Canal.

N. The large Hole under that Ridge.

O. The *Meatus Auditorius internus.*

P. The ſharp Ridge running from the ſuper. ſemicircular Canal to the End of the Bone.

Q. The Cavity for the lateral *Sinus* of the *Dura Mater.*

R. A ſmall Hole, amidſt ſeveral others, not ſeen in *Adults.*

S. The Opening of the *Fallopian* Canal.

Fig. XI. Is a View of the Cavity of the *Tympany* of a full-grown *Fœtus*, with the Bones of the Ear in their natural Site.

A. The long and ſlender Proceſs of the *Malleus* in its natural Situation.

B. The Connection of the Heads of the *Malleus* and *Incus.*

C. The *Foramen rotundum.*

Fig. XII. An Inſide-View of the *Os Squamoſum* of a full-grown *Fœtus*, with the *Annulus*, *Malleus*, and *Incus*, and a part of the *Os Petroſum.*

A. The Inſide of the *Membrana Tympani.*

I. I. The Ridge made by the Juncture of the *Os Squamoſum* and *Petroſum.*

L. A ſmall Hole peculiar to *Fœtus's.*

M. Part of the *Os Squamoſum*, making the upper and external Side of the *Tympanum.*

Fig. XIII. A View of the Inſide of the *Sphenoide* Bone of a full-grown *Fœtus.*

B. B. Its great *Alæ*, or Wings.

C. The Cartilage by which it joins the fourth Bone of the *Occiput*.

D. D. The poſterior *Clinoide* Proceſs, entirely cartilaginous.

E. The *Sella Turcica*.

F. F. The anterior *Clinoide* Proceſs, wholly Bone.

G. G. The little *Alæ*, or Wings.

H. The Notch, receiving Part of the *Criſta Galli*.

I. I. The lateral Proceſſes of the Body of the *Sphenoide* Bone, to which the great Wings are fix'd.

Fig. XIV. A View of the external Side of the *Sphenoide* Bone.

A. The Body of the ſaid Bone.

B. B. Its great Wings, or *Proceſſus Pterygoides*.

C. The Cartilage at the End of the Body.

D. Its *Azygos* Proceſs.

E. The *Temporal* Proceſs of the Great Wing.

F. The *Orbital* Proceſs.

Fig. XV. Is Part of the *Os Ethmoides*, cartilaginous, and the *Vomer* bony.

A. The *Septum Naſi*.

B. The *Criſta Galli*.

C. One Side of the *Vomer*.

D. The Bottom of the *Vomer*, by which it joins the Bones of the *Upper Jaw* and *Palate*.

Fig. XVI. Repreſents one of the external Sides of the *Nares* or *Noſtrils*.

A. B. B. The ſuperior *ſpongy Bones*.

C. The Inſide of the *Os Naſi*, or Naſal Bone.

D. The inferior *Os Spongioſum*, or ſpongy Bone.

E. Part of the Upper Jaw-Bone.

Fig. XVII. Repreſents the external Side of an Upper Jaw-Bone and Palate-Bone of a full-grown *Fœtus*.

A. The Naſal Proceſs of the *Os Maxillare*.

B. Its *orbital* Proceſs.

C. The Cavity in which part of the *Os Malæ* is fix'd.

D. The *orbital* Proceſs of the *Palate Bone*.

Fig. XVIII. The internal View of the ſame Bones.

A. The Inſide of the Naſal Proceſs of the *Os Maxillare.*

B. The Paſſage of the Lachrymal Duct into the *Nares.*

C. The Proceſs by which this Bone is connected to its Fellow.

E. E. E. Parts of the Side and Bottom of the *Nares* form'd by this Jaw-Bone.

D. The *Antrum* of *Highmore.*

F. The *orbital* Proceſs of the Palate-Bone.

G. That Part of the *Os Palati* which makes the Hinder-part of the *Nares.*

H. The End of the *Lamella* of the Jaw-Bone, under which ſlides part of the Palate-Bone.

Fig. XIX. The *Os Hyoides* of a full-grown *Fœtus.*

A. A. Its Horns, and their Oſſifications.

B. Its Body, and its Oſſification.

C. C. The Articulation of its Horns to its Body.

Fig. XX. The ſame Bone, and its Oſſification (*a*) of a *Fœtus* of eight Months.

Fig. XXI. Another of a *Fœtus* of four Months.

Fig. XXII. The *Sternum* or Breaſt-Bone of a *Fœtus* of ſix or ſeven Months.

1. 2. 3. 4. Oſſifications of different Magnitude.

D. The *Proceſſus Enſiformis.*

Fig. XXIII. Repreſents the *Os Innominatum* of a full-grown *Fœtus.*

A. The *Os Ilium.*

B. The *Os Pubis.*

C. The *Os Iſchium.*

D. D. The cartilaginous Extremity of the *Ilium.*

E. The Cartilage which joins the *Ilium* to the Top of the *Acetabulum.*

F. The Cartilage which joins the *Os Pubis* and *Iſchium* together.

G. The *Acetabulum.*

Fig. XXIV.

Fig. XXIV	Repreſents the Bones of the Foot of a full-grown *Fœtus* in their natural Situation.
1. 2. 3. 4. 5. 6. 7.	The Bones of the *Tarſus*.
A. B.	The two *Epiphyſes* of a *metatarſal* Bone.
C.	The Body of that Bone.
D. E.	The *Epiphyſes* of the two firſt Bones of the Little Toe.
F.	The laſt Part of that Toe, but very little oſſified.
G. H.	The two Bones of the Great Toe.
Fig. XXV.	Repreſents the *Os Femoris*, or Thigh-Bone, and the two Bones of the Leg, *viz. Tibia* and *Fibula*, of a full-grown *Fœtus* ſlit.
A. A. B. B.	Shew the Difference between the Subſtance of the Extremities of theſe Bones and their middle Parts.
C. C. C. C.	The Veſſels entring the Oſſification F.
D.	A ſmall Oſſification.
E.	Several ſmall Veſſels entring a ſmall red Speck, in which Dr. *Neſbitt* (the Author of the Figures of this Plate) thought he felt bony Particles.
G.	A large Oſſification.
Fig. XXVI	Is a Section of an *Epiphyſis* of the Thigh-Bone juſt before the bony Particles become viſible in it.
Fig. XXVII	A Section of an *Epiphyſis* of the *Tibia* juſt after the Oſſification becomes viſible at *a*.
Fig. XXVIII	Another Section of an *Epiphyſis*, in which the Oſſification is increas'd, and various Veſſels appear ending in red Specks at *a. a.*
Fig. XXIX.	Another, in which the Oſſification is much increaſed.
Fig. XXX.	Another Section, in which a very conſiderable Inflammation appears round the Oſſification.
Fig. XXXI	The *Os Calcis*, or Bone of the Heel, of a full-grown *Fœtus* ſlit.

Fig. XXXII. The Cartilage of an *Aſtragalus*, which had been macerated in Water, ſlit, to ſhew the Manner in which the Bone *a* ſlips out of the cartilaginous Cavity *b*.

Fig. XXXIII. The Bones of a *Great Toe* of a full-grown *Fœtus* ſlit, with part of the Ligament of the Joint at the Bottom of the firſt Bone, in which are contained two *Oſſa Seſamoidea*, a. a.

PLATE II.

Plate II.

Fig: I.

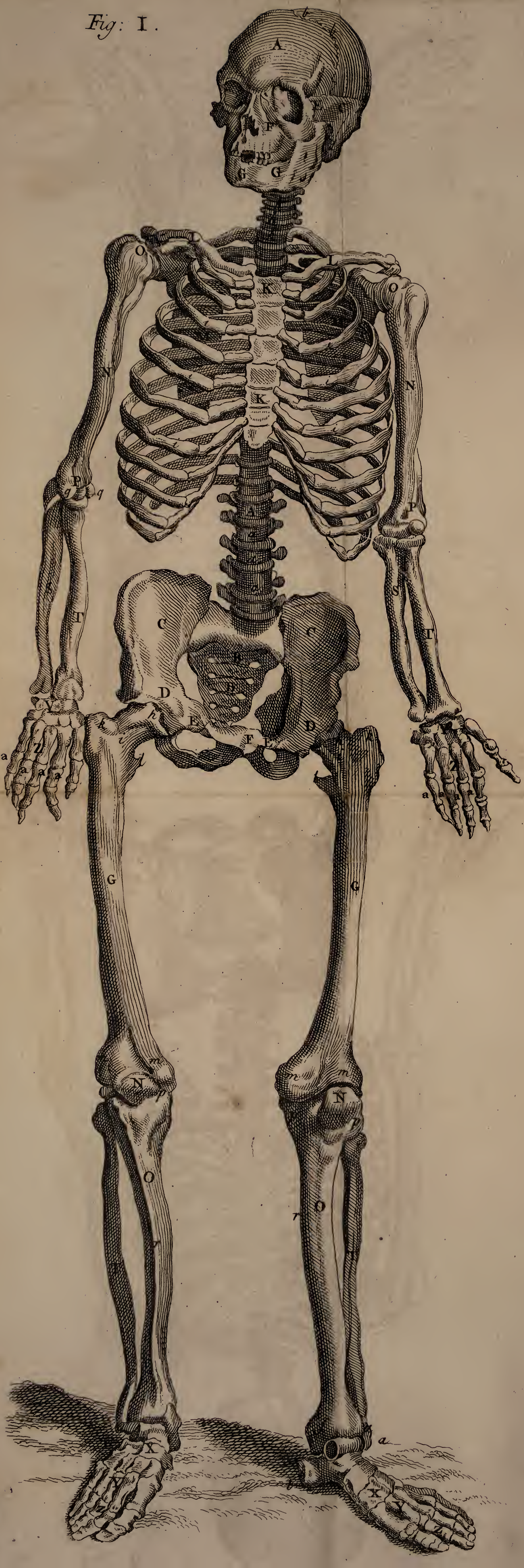


Fig: II.

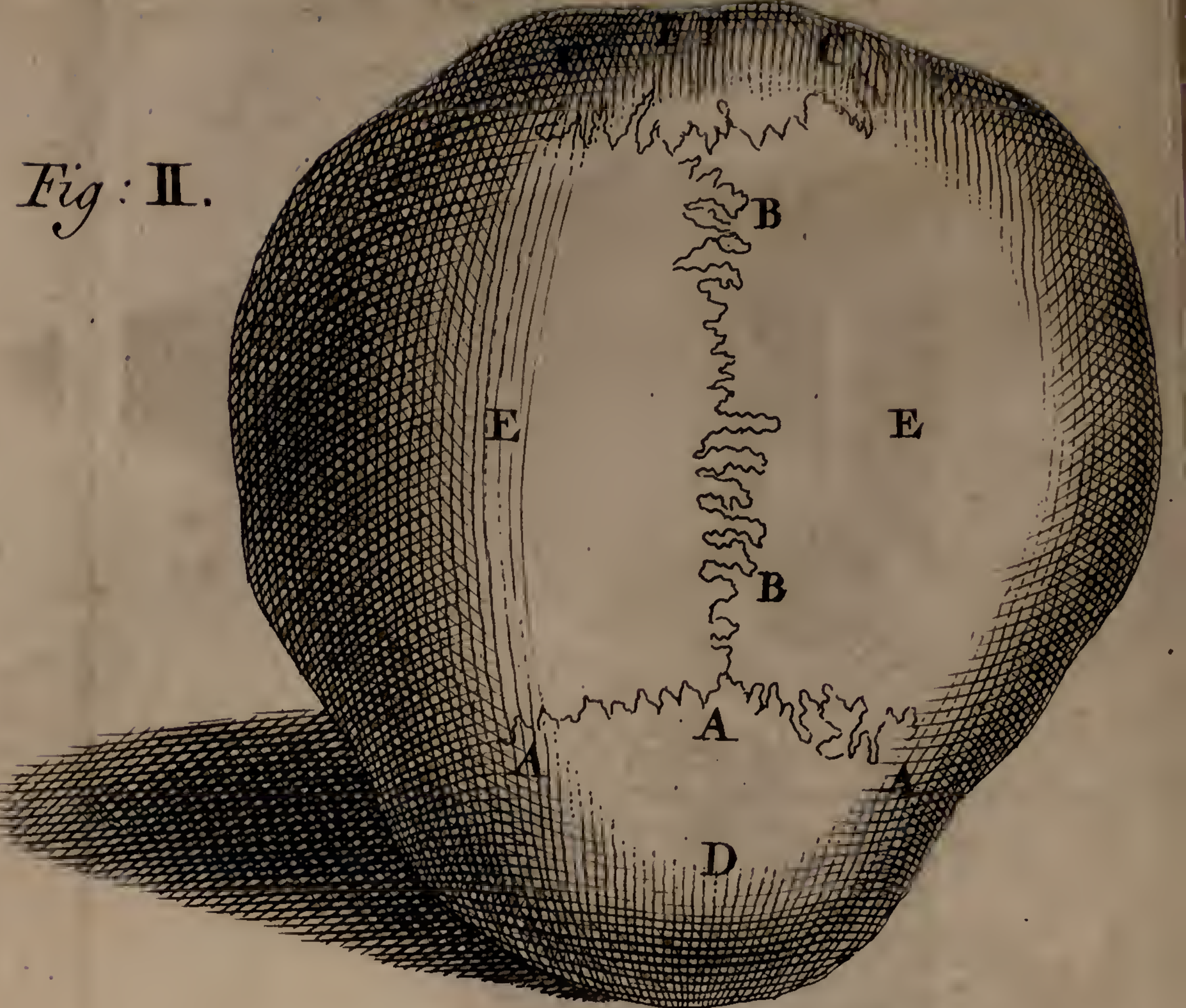
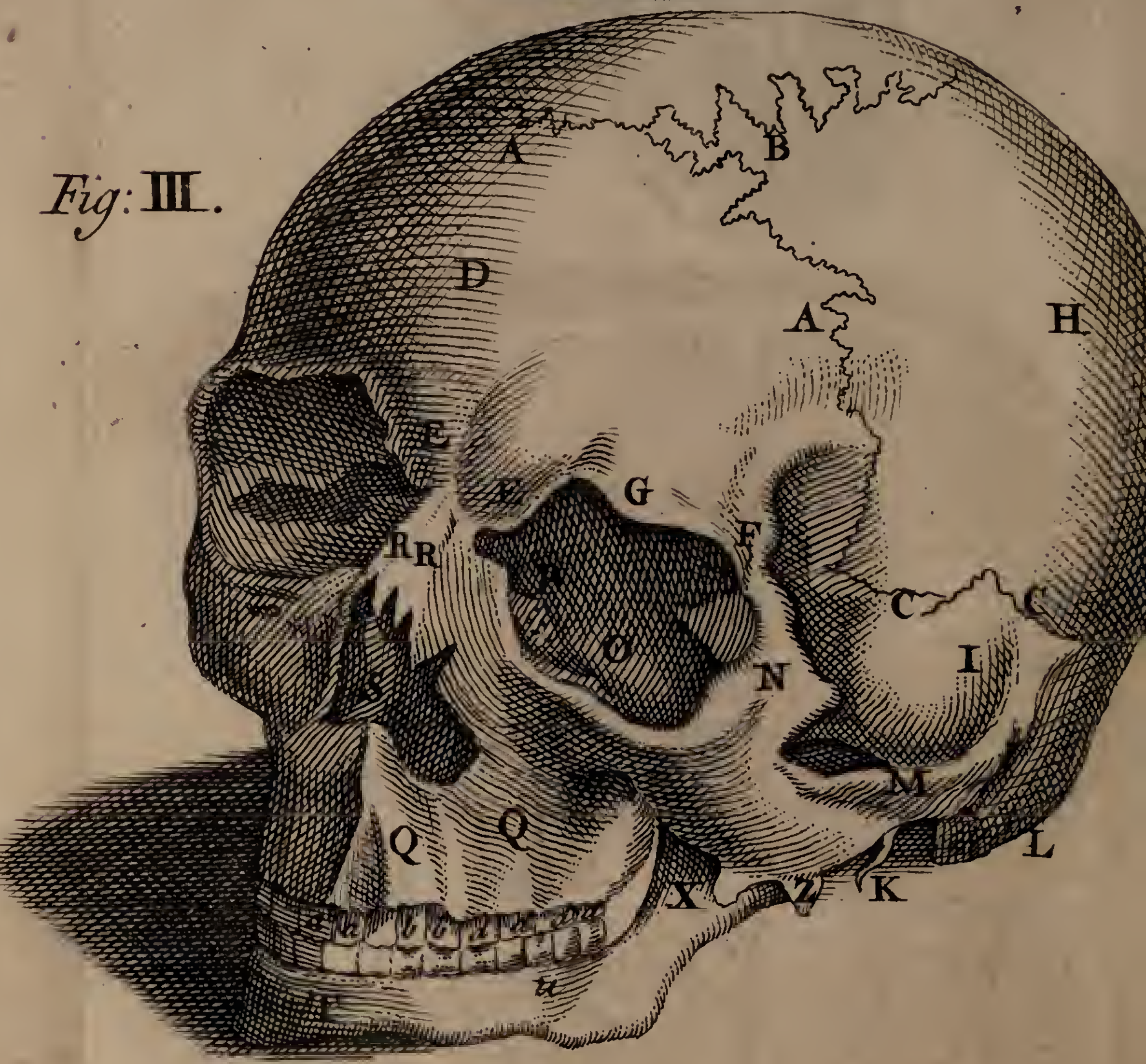


Fig: III.



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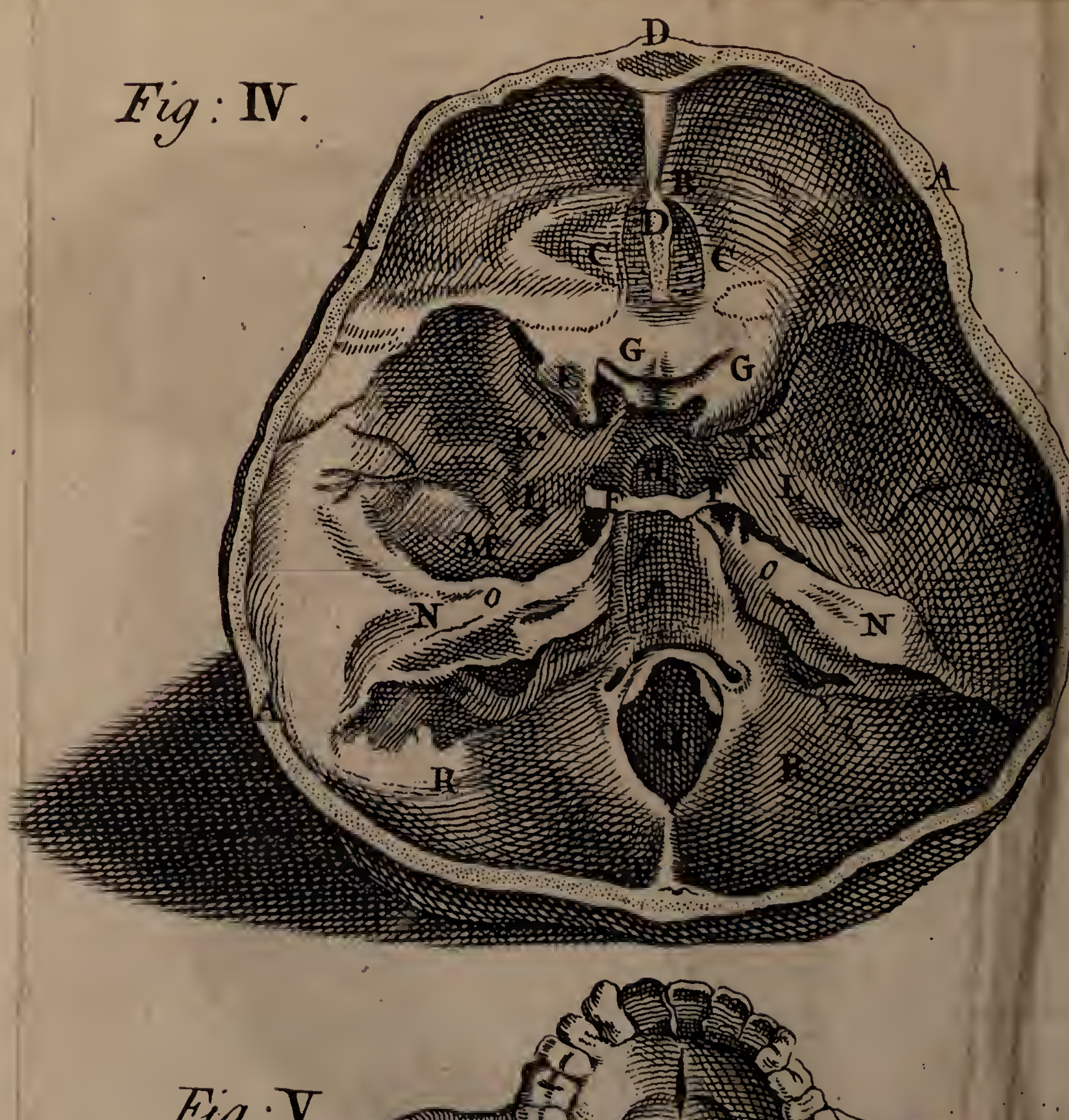

Fig: V.

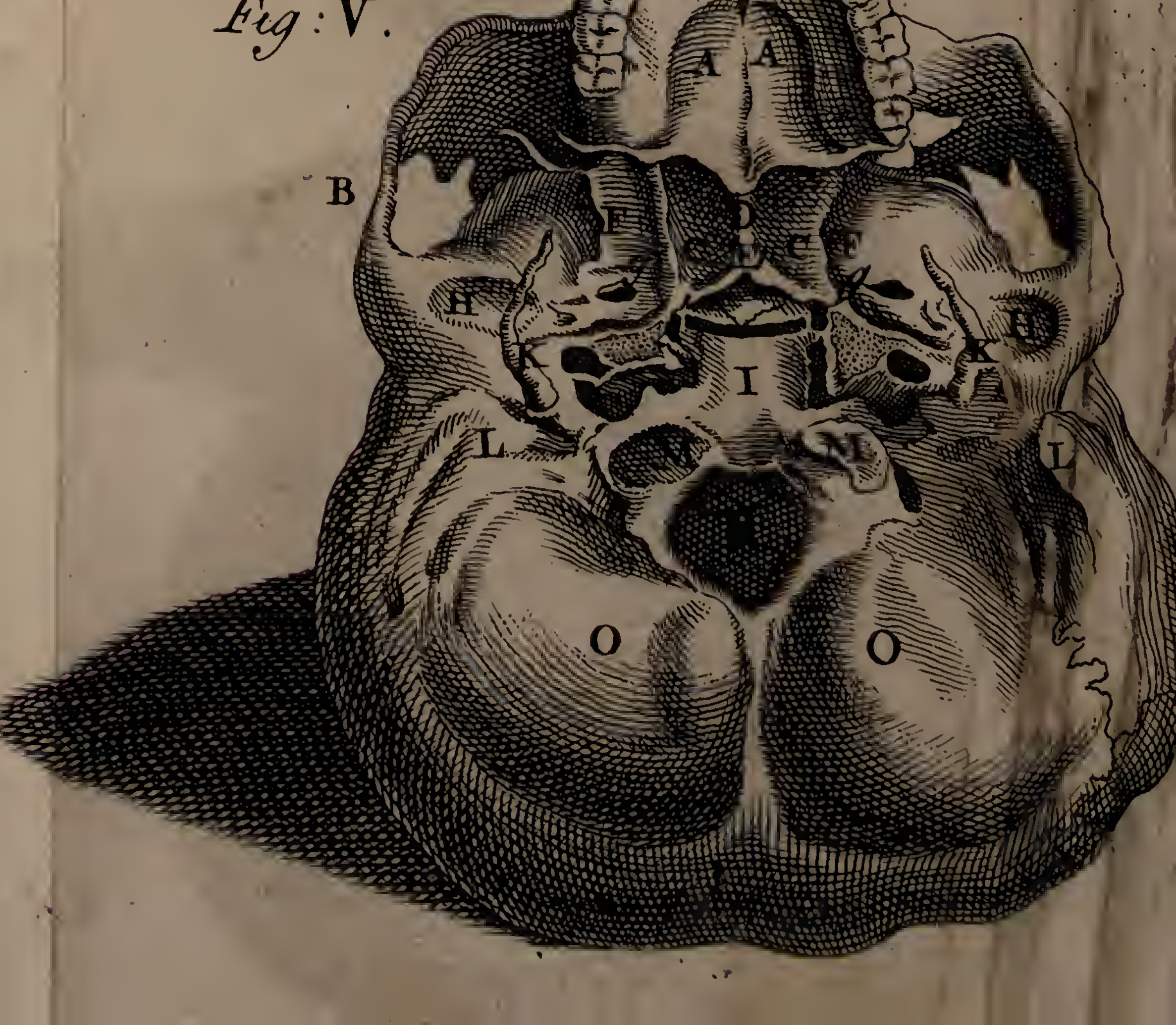

Fig. I.	EXhibits a View of an human Sceleton of an adult Body, whereby the Texture, Connection, and Situation of all the Parts in the whole Compages appear as in their natural State.
A.	The *Os Frontis*, or Forehead-Bone.
b. b.	The Coronal Suture.
C.	The *Os Temporis*, or Bone of the Temple.
d.	The *Mammillary Proceſs* thereof.
E.	The *Os Jugale*, or Yoke-Bone.
F.	The Upper Jaw-Bone.
G. G.	The Lower Jaw-Bone.
h. h. h.	The *Vertebræ* of the Neck.
i. i. i.	The Ribs.
K. K.	The *Os Sternum*, or Breaſt-Bone.
L. L.	The *Clavicles*, or Collar-Bones.
M. M.	The internal Sides of the *Scapulæ*, or Blade-Bones.
N. N.	The *Os Humeri*, or Shoulder-Bone.
O. O.	The Head thereof articulated into the Shoulder.
P. P.	Its lower End articulated into the *Radius* and *Ulna*.
q. q.	The internal *Apophyſes*.
r. r.	The external ones.
S. S.	The Bone of the Cubit call'd the *Ulna*.
T. T.	The other call'd the *Radius*, or Wriſt-Bone.
V. V.	The Proceſs of the *Ulna*, call'd *Alecranon*.
Y. Y.	The *Carpus*, or Wriſt, of eight ſmall Bones.
z. z.	The *Metacarpus*, or Back of the Hand.
a. a. a. a.	The *Phalanges*, or Bones of the Fingers.

The Lower Part of the Sceleton.

A. a. a. a. a.	The five *Vertebræ* of the Loins.
B. B.	The internal Side of the *Os Sacrum*.
C. C.	The Cavity of the *Os Ilium*.
D. D.	The *Os Coxendix* with its *Acetabulum*.

E. E. The *Os Pubis*, with its Holes.
F. The Connection of the *Oſſa Pubis* by means of a Cartilage.
G. G. The Thigh-Bone.
h. h. Its round Head, or *Epiphyſis*, articulated to the *Acetabulum*.
i. i. Its *Cervix*, or Neck.
k. k. Its external Proceſs, call'd the *Trochanter major*.
l. l. Its internal Proceſs call'd the *Trochanter minor*.
m. m. The lower Heads, or *Apophyſes* of the Thigh-Bone.
N. N. The *Patella*, or Knee-Pan.
O. O. The *Tibia*, or Great Bone of the Leg.
p. p. The two Upper *Sinus's* thereof.
r. r. The Part of it call'd the Spine.
ſ. ſ. Its lower Proceſs making the inner Ancle.
T. T. The other Bone of the Leg call'd *Tibula*, or *Perone*.
u. u. Its inferior Part making the outer Ancle.
X. X. The ſeven Bones of the *Tarſus*, or Inſtep.
Y. Y. The five Bones of the *Metatarſus*.
z. z. The Bones of the Toes.
a. The Bone call'd the *Aſtragal*.
b. The *Calx*, or Heel-Bone.
Fig. II. Exhibits a View of the external and upper Part of the Scull.
A. A. A. The *Coronal* Suture.
B. B. The *Sagittal* Suture.
C. C. The *Lambdoidal* Suture.
D. The *Os Frontis*, or Forehead-Bone.
E. E. The Bones of the *Sinciput*.
F. F. Part of the Bone of the *Occiput*.
Fig. III. Exhibits the anterior and ſide View of the whole Scull.
A. A. The *Coronal* Suture.
B. Part of the *Sagittal* Suture.
C. C. The *Squamous* Suture of the Temporal Bones.

D. The *Os Frontis*, or Forehead-Bone.
E. E. Its Proceſs at the Great *Canthus* of the Eye.
F. Its other Proceſs at the leſſer *Canthus*.
G. A Hole for the Exit of the Nerves.
H. An *Os Bregmatis*, or Bone of the *Sinciput*.
I. An *Os Temporum*, or Temple-Bone.
K. Its *Appendix Styloides*.
L. Its *Mammillary* Proceſs.
M. Its *Zygomatic* Proceſs.
N. The *firſt* Bone of the Upper Jaw.
O. The *ſecond* Bone thereof.
P. Its Hole, on which lies the *Lachrymal* Gland.
Q. Q. The *third* Bone of the Upper-Jaw.
R. R. Its *fourth* Bone.
S. The *Septum Narium*, or Partition of the Noſtrils.
T. The Lower Jaw-Bone.
u. Its external leſſer Perforation.
X. Its Proceſs call'd *Corone*.
Z. Its other call'd the *Condyloide* Proceſs.
a. *a*. The *Dentes Inciſores*, or ſharp Teeth.
b. *b*. The *Dentes Canini*, or Dog-Teeth.
d. *d*. *d*. *d*. The *Dentes Molares*, or Grinders.
Fig. IV. Is a View of the internal and lower Part or Baſis of the Scull.
A.A.A.A. The Section of the Scull, ſhewing its *Lamellæ* and *Meditullary* Subſtance between.
B. The Hole leading to the Cavity of the Noſe.
C. C. The *Os Cribriforme* perforated with many Holes.
D. The Proceſs call'd *Criſta Galli*.
E. E. The two *anterior Clinoide* Proceſſes of the *Os Sphenoides*.
F. F. The two *poſterior* ones.
G. G. The Holes for the Egreſs of the Optic Nerves.
H. The *Sella Turcica*, on which lies the *Pituitary* Gland.
I. The *Sinus*, on which the Optic Nerves unite.

K. K. L. L. M. M.	The Holes of the *Os Sphenoides* for the Paſſage of Veſſels.
N. N.	The *Os Petroſum.*
O. O.	The Holes therein for the Egreſs of the Auditory Nerves.
P. P.	The Part of the *Os Occipitis* joining the *Sphenoides.*
Q.	The great Hole of the *Occipital* Bone, through which paſſes the Spinal Marrow.
R. R.	The large *Sinus's* of the *Occiput*, containing the *Cerebellum.*
Fig. V.	Exhibits a View of the exterior Face of the Baſis of the Scull.
A. A.	The *fifth* Bone of the Upper-Jaw, making the Palate.
B.	The *Os Jugale*, or Jugal Bone.
C. C.	The Great Holes by which the Noſtrils open into the Mouth.
D.	The *Septum Narium.*
E.	The Bone call'd the *Vomer.*
F. F.	The *Pterygoide* or *Aliforme* Proceſſes of the *Os Sphenoides.*
g. g.	The Cavities of thoſe Proceſſes.
H. H.	The *Temporal Sinus* receiving the *Condyloide* Proceſs of the Lower *Jaw-Bone.*
I.	The Part of the *Occipital* Bone, as before in *p. p.*
K. K.	The *Appendices Styloides* of the Temp. Bones.
L. L.	The *Mammillary* Proceſſes thereof.
M. M.	The two Proceſſes of the *Occipital* Bone, to which the firſt *Vertebræ* of the Neck is articulated.
N.	The *Foramen Magnum*, or Great Hole, as before in *q.*
O. O.	The two protuberant Sides of the *Occipital* Bone.

Plate III.

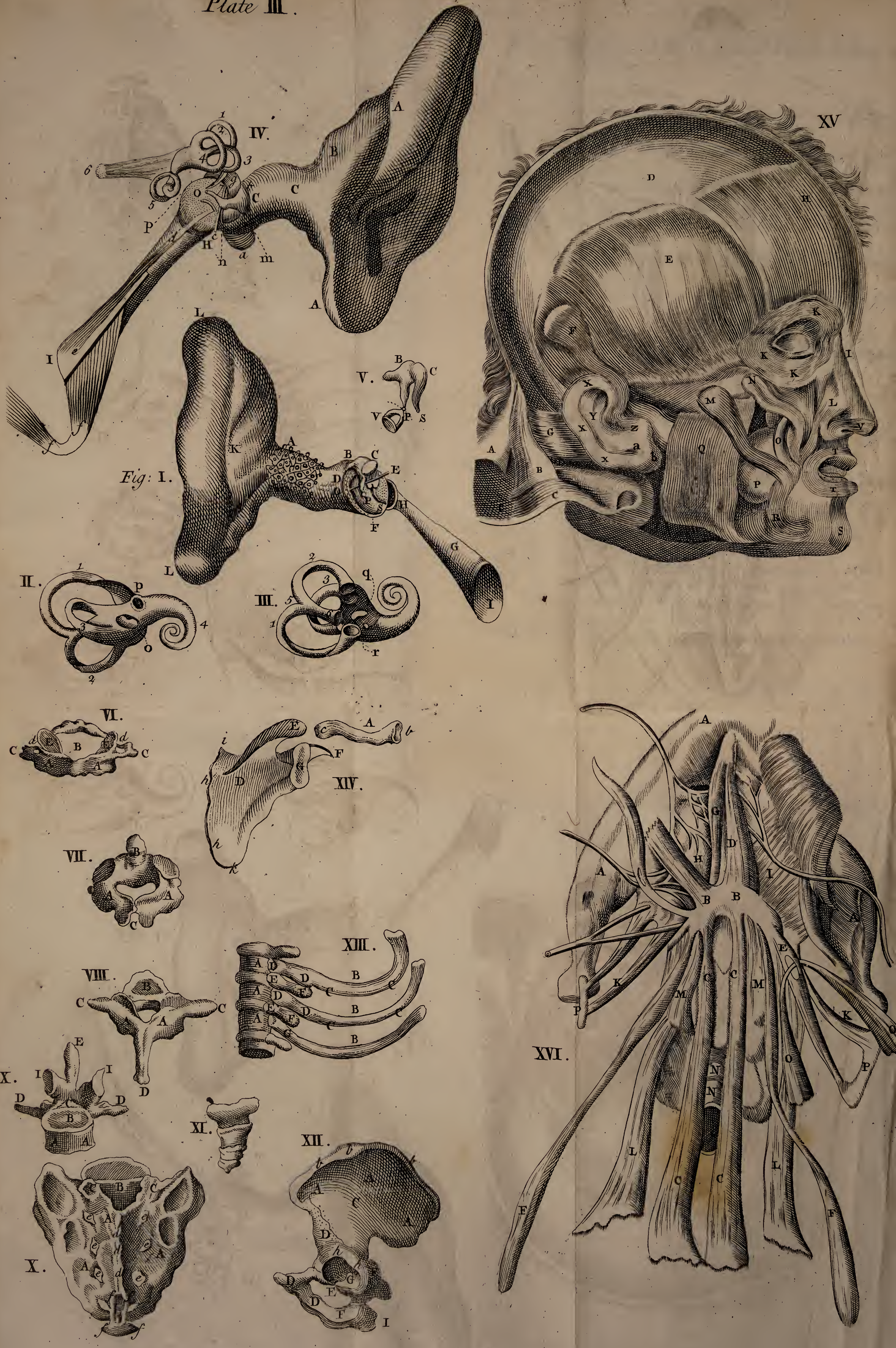
Fig: I.
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PLATE III.

Fig. I.	EXhibits a View of the Ear, and its Bones, *&c.*
A. C.	The *Auditory Tube*, or *Meatus Auditorius*, which at
A.	Is cartilaginous, but afterward bony.
F.	The *Membrana Tympani*, or Head of the Drum.
D.	A *Sinus*, in which reſts the ſharp End of the little Bone.
B. P.	The *Anvil*, or *Incus*.
C. S.	The *Stirrup*, or *Stapes*.
H.	The Aperture of the Tube,
H. G. I,	Which is terminated in the Roof of the Mouth at
I,	By which means the Air of the Mouth has a Communication with the Drum of the Ear.
E. O.	Is a Branch of a Nerve, call'd *Chorda Tympani*, or String of the Drum.
K.	Is the external Hollow of the Ear call'd *Concha*.
L. L.	The Circumference of the external Ear.
Fig. II.	A View of the Cavity of the Ear call'd the *Labyrinth*;
1. 2. 3.	Are three ſemicircular Tubes or Canals.
4.	The *Cochlea*, or Snail.
o.	The *Feneſtra Ovalis*.
p.	The *Feneſtra Rotunda*.
Fig. III.	Exhibits the Labyrinthal Canals opening into the Cavity call'd the *Veſtibulum*.
1. 2. 3.	The Semicircular Tubes of the *Labyrinth*, as before.
4.	The *Cochlea*.
5.	The Union of the firſt and ſecond Tube.
6.	The Tube ariſing from that Union.
q.	The *Feneſtra Ovalis*, and
r.	The *Feneſtra Rotunda*, both ſeen together with the Apertures of the Labyrinthal Tubes in the *Veſtibulum*.
Fig. IV.	Is a View of the whole Structure of the Ear, and its Parts ſubſervient to the Office thereof.

PLATE III.

A. A.	The external Ear, which gathers Sounds.
B.	The *Concha*, or Shell which receives it.
C. C.	The *Meatus Auditorius*, which leads to
O.	The Drum-Head, or *Membrana Tympani.*
c. 7.	The *Chorda Tympani.*
m.	The *Incus*, or Anvil.
n.	The *Malleolus*, or Hammer.
p.	The *Stapes*, or Stirrup.
1, 2. 3.	The Tubes of the *Labyrinth.*
4.	The *Veſtibulum*, or Porch.
5.	The *Cochlea*, or Snail-Shell-like Cavity.
6.	The Auditory Nerve, which enters by the *Veſtibulum* thro' five Orifices into the *Labyrinth.*
H. I.	The Tube call'd *Euſtachius*'s Trumpet.
e. d.	A ſmall Muſcle in that Tube, which moves the Hammer.
f. f.	Another Muſcle, which, with the other, ſerves to open the Tube for the Paſſage of Air.
g.	A little Muſcle inſerted into the Head of the Stirrup, to give it proper Motion for Hearing.
Fig. V.	Shews the Auditory Bones of the Ear, as follows.
C. S.	The *Malleus*, or Hammer.
B. P.	The *Incus*, or Anvil.
P. V.	The *Stapes*, or Stirrup.
P.	A ſmall roundiſh Bone between the Anvil and Stirrup, which makes the fourth in Number.
Fig. VI.	A. A. The anterior Face of the firſt *Vertebra* of the Neck, call'd *Atlas.*
B.	The Hole by which the Spinal Marrow deſcends.
C. C.	Its tranſverſe or lateral Proceſſes.
d. d.	The lateral Holes by which the Arteries aſcend to the Brain.
E. E.	The two *Sinus's*, to which the *Occipital* Bone is articulated.
Fig. VII.	A. A. The hinder Face of the ſecond *Vertebra* of Neck.
B.	Its Appendix, or *Dentiforme* Proceſs.

C.	The hinder Proceſs thereof cloven into two, for the more convenient Inſertion of the Muſcles and Ligaments.
Fig. VIII.	A.A. The hinder View of a *Vertebra* of the Back.
B.	Its upper Surface full of ſmall Holes.
C. C.	The tranſverſe Proceſſes thereof.
D.	Its poſterior Proceſs, or Spine.
Fig. IX.	A. A. The Body of a *Vertebra* of the Loins.
B.	Its upper Superficies lined with a Cartilage.
C.	The Hole for the Paſſage of the Marrow.
D. D.	Its lateral Proceſſes.
E.	Its poſterior Proceſs, or Spine.
I. I.	Its oblique Proceſſes.
Fig. X.	A. A. A. The hinder View of the *Os Sacrum*, with its Gibboſities and Aſperities.
B.	The Hole for the Marrow.
C. C.	Its oblique Proceſſes.
d. d. d.	Its hinder Proceſſes.
e. e. e. e.	Its Holes for the Exit of the Nerves.
f. f. f. f.	Its hinder and inferior Proceſs cloven into two.
Fig. XI.	The *Os Coccygis*, conſiſting of four little Bones or Cartilages.
Fig. XII.	Shews the *Os Innominatum*.
A. A. A.	That Part thereof call'd the *Os Ilium*.
b. b. b.	Its Spine.
C.	The Back thereof.
D. D. D.	The *Os Pubis*.
E.	The Great Hole.
F. F. F.	The *Os Iſchium*, or *Coxendix*.
G.	The *Acetabulum*.
h. h.	Its Superciliary Border or Ridge.
I.	The Appendix of the *Os Iſchium*.
Fig. XIII.	A. A. A. The *Vertebræ* of the Back.
B. B. B.	The Ribs.
C.C.C.C.	The *Sinus's* on the lower Parts thereof.
D. D.	The *Tubercles* by which they are articulated.
E.	The *Sinus* of the *Vertebra*.

F. The tranſverſe Proceſs of the *Vertebra.*
G. The loweſt Rib, having only a ſingle Tubercle.
Fig. XIV. A. The Clavicle, or Collar-Bone.
b. Its Head, joining the *Sternum.*
c. Its other End joining the *Scapula.*
D. The *Scapula*, or Blade-Bone.
E. Its Proceſs, call'd *Acromion.*
F. The leſs inferior Proceſs, call'd *Coracoides.*
G. The ſhort Proceſs call'd αὐχὴν, the Neck.
h. h. The Baſis of the *Scapula.*
i. k. The ſuperior and inferior Angles or Corners thereof.
Fig. XV. Shews the Muſcles of the Head and Face.
A. The *Pericranium.*
B. The *Perioſteum.*
C. The Hairy Scalp.
D. The Scull laid bare.
E. The Temporal Muſcle.
F. The ſuperior Muſcle of the Ear.
G. The Muſcle of the *Occiput*, reaching to the hinder Muſcles of the Ear.
H. The Muſcle of the Forehead.
I. Its Appendix extended along the Ridge of the Noſe.
K. The *orbicular* Muſcle of the Eye.
L. The *triangular* Muſcle of the Noſe.
M. The common Attollent Muſcle of the Lips.
N. The firſt proper Muſcle of the Upper Lip.
O. The ſecond of the ſame.
P. The Muſcle call'd *Buccinator.*
Q. The Maſſeter.
R. The common depreſſing Muſcle of the Lips.
S. The mental Muſcle of the Lower Lip.
T. T. The third common orbicular Muſcle of the Lips.
V. The circular Muſcle of the Noſe.
X. X. X. The Rim of the Ear, call'd *Helix.*
Y. The Part call'd *Anthelix.*

Z. The

Z.	The *Tragus* of the *Auricle.*
a.	The *Antitragus.*
b.	The Lobe of the Ear.
Fig. XVI.	Shews the Muſcles of the Tongue and *Os Hyoides.*
A. A. A.	The Body of the Lower-Jaw.
B. B.	The Body of the *Os Hyoides.*
C. C.	The firſt Pair call'd *Sternohyoides.*
D.	One of the ſecond Pair of Muſcles in its Place, the other removed out of it.
E. E.	The third Pair perforated in the Middle.
F. F.	The fourth Pair call'd *Coracohyoides.*
G.	A Muſcle of the fourth Pair belonging to the Tongue.
H. H.	The *Parenchyma*, or Subſtance of the Tongue, into which the Nerves are inſerted.
I.	A Muſcle of the fifth Pair of the Tongue.
K. K.	A Muſcle of the firſt Pair thereof.
L. L.	The common Muſcles of the *Larynx*, call'd *Sternothyroides.*
M. M.	Another Pair of the ſame, call'd *Hyothyroides.*
N, N.	The Cartilages or Rings of the Wind-pipe.
O. O.	A Muſcle of the Lower Jaw, call'd *Digaſtric.*
P. P.	Portions of the *Styloide* Proceſſes of the *Os Petroſum.*

Plate IV

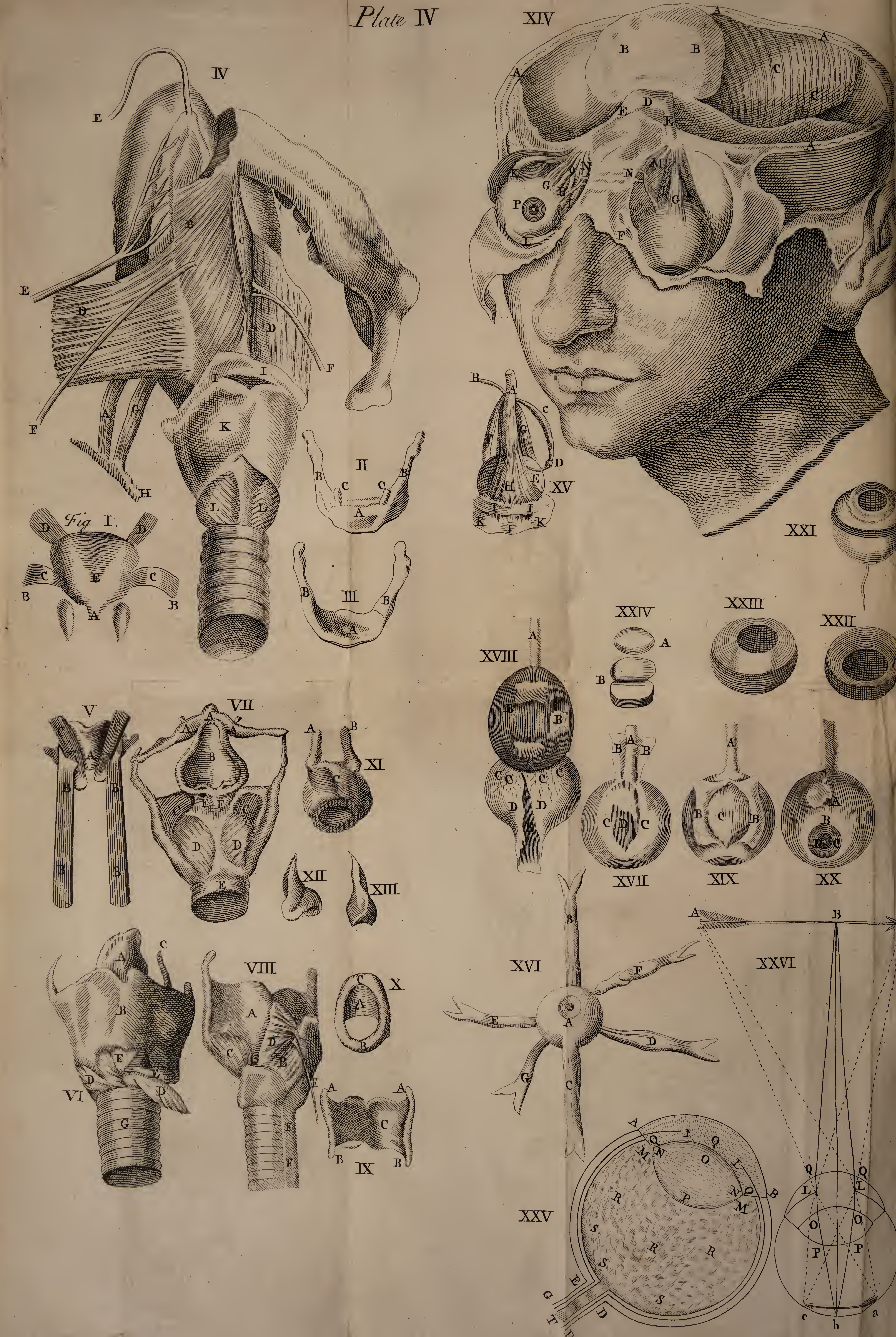
Fig. I.
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A B C E E D D G
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A A A B C C E E D D E
VIII
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IX
A A C B B
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C A B
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Fig. I. A. THE *Uvula*, or *Gargareon*.
B. B. The exterior Pair of Muſcles.
C. C. The Tendons thereof.
D. D. The interior Pair of Muſcles a little compreſs'd.
E. Part of the Palate, whence the *Uvula* hangs.
Fig. II. III. A. The Baſis of the *Os Hyoides*.
B. B. The Proceſſes or Horns thereof.
C. C. Two cartilaginous Appendices.
Fig. IV. A. The firſt Muſcle of the Tongue ariſing from the *Styloide* Proceſs.
B. The ſecond Muſcle of the Tongue.
C. One of the third Pair, call'd *Genioglоſſum*.
D. D. The fifth Pair, call'd *Ceratogloſſum*.
E. E. The *Guſtatory* Nerves.
F. F. The *Motory* Nerves of the Tongue.
G. A Muſcle of the *Os Hyoides*.
H. Part of the *Styliform* Proceſs.
I. I. The *Os Hyoides*.
K. The *Scutiform* Cartilage.
L. L. Two Muſcles proper to the *Larynx*.
Fig. V. A. The Cartilage of the *Larynx*, call'd *Thyroides*, or *Scutiformis*.
B. B. The Pair of Muſcles call'd *Sternothyroides*.
C. C. The other Pair call'd *Hyothyroides*.
Fig. VI. A. The *Epiglottis*, yet lying hid under
B. The *Scutiform* Cartilage, making the *Pomum Adami*.
C. C. The Proceſſes thereof.
D. D. Two proper Muſcles of the *Larynx*, whereof one is removed to ſhew
E. The Annular Cartilage, or *Cricoides*.
F. The protuberant Part thereof.
G. Part of the *Arteria Aſpera*, or Wind-pipe.
Fig. VII. A. A. A. The *Os Hyoides*.
B. The *Epiglottis*,
C. C. The hinder Part of the *Cart. Scutiformis* hollow.

D. D. The hinder Part of the Muſcles call'd *Cricoarytænoides.*
E. The hinder and membranous Part of the *Aſpera Arteria.*
F. F. The Pair of Muſcles call'd *Arytænoides.*
Fig. VIII. A. The concave Part of the *Scutiform* Cartilage.
B. The third and lateral Pair of Muſcles call'd *Cricoarytænoides.*
C. The firſt Pair of proper Muſcles of the *Larynx.*
D. The fourth and internal Pair, call'd *Thyroarytænoides.*
E. The Inſertion of the *Recurrent* Nerve.
F. F. The poſterior membranous Part of the *Aſpera Arteria.*
Fig. IX. A. A. The *Cartilago Thyroides vel Scutiformis.*
B. B. Its inferior Proceſſes.
C. Concave Part thereof.
Fig. X. A. The internal Part of the *Cartilago Cricoides.*
B. Its inferior and anterior Part.
C. Its poſterior and ſuperior Part.
Fig. XI. A. B. The hinder View of the *Cart. Arytænoides* join'd to the *Cricoides.*
C. The broad hinder Part thereof.
Fig. XII. & XIII. } Shew the Cartilages ſeparated from the *Cricoides*, which conſtitute the *Arytænoides.*
Fig. XIV. Shews the Muſcles of the Eye, *&c.* in their natural Situation.
A. A. A. A. The Section of the Scull.
B. The interior medullary Portion of the Brain diſſected.
C, C. The *Cerebellum.*
D. The Meeting and Union of
E. E. The *Optic Nerves* proceeding to each Eye.
F. The *Glandula Lachrymalis* drawn aſide from its Place.
G, G. The firſt Muſcle of the Eye, call'd the *Attollent.*

H. The ſecond Muſcle, call'd *Depriment.*
I. I. The third Pair, call'd the *Adducent Muſcles.*
K. K. The fourth Pair, call'd the *Abducent Muſcles.*
L. The fifth, or external oblique Muſcle.
M. The ſixth, or internal oblique Muſcle, paſſing thro'
N. The *Trochlea*, or Pulley of the Noſe-Bone.
O. The *Optic Nerve* in the Right Eye.
P. The *Tunica Cornea*, in the Middle whereof is the Pupil of the Eye.
Fig. XV. A. The *Optic Nerve.*
B. The *Nervus Motorius* of the Eye.
C. The *Trochlear* Muſcle paſſing thro'
D. The Bony Pulley, by
E. Its tendinous Part.
F. G. The *Muſculi Recti* both external and internal.
H. The Muſcle of the Upper Eye-lid contain'd within the Orbit.
I. I. I. The Eye-lids cut off.
K. K. The *Cilia*, or hairy Borders of the Eye-lids.
Fig. XVI. Shews the Muſcles of the Eye ſeparate and extended.
A. The *Tunica Cornea* with its *Pupilla.*
B. The right *attollent* Muſcle.
C. The right *depriment* Muſcle.
D. The right internal, or *adducent* Muſcle.
E. The right external, or *abducent* Muſcle.
F. The oblique internal, or *Trochlearis.*
G. The oblique external or inferior Muſcle.
Fig. XVII. A. The Optic Nerve laid bare.
B. B. The *Dura Mater* which encloſes it.
C. C. The *Sclerotica* laid open, in order that
D. The *Uvea* may be ſeen.
Fig. XVIII A. The Optic Nerve with only the *Pia Mater.*
B. B. The *Tunica Choroides* clear from the *Sclerotica.*
C. C. C. C. Veins diſperſed over the *Sclerotica.*
D. D. The *Sclerotica* pull'd down or inverted.
E. E. A Fiſſure or Rent in the *Sclerotica.*

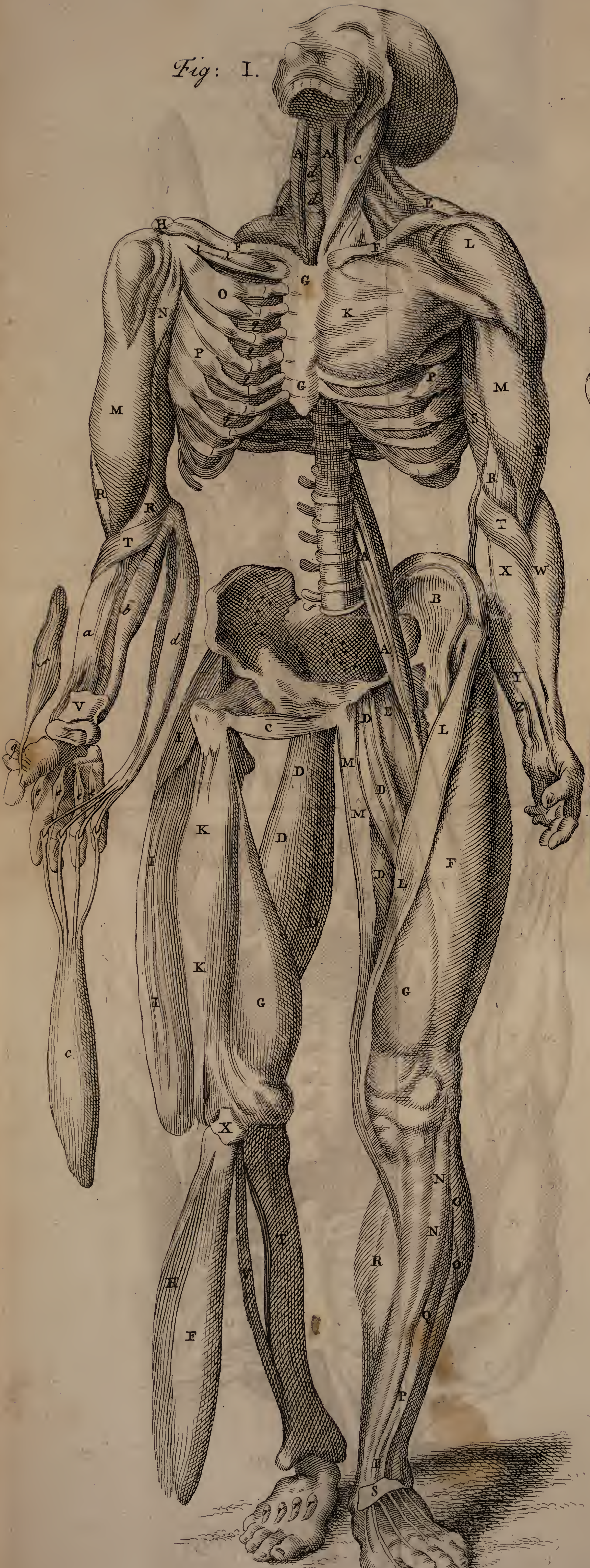
Fig. XIX.

Fig. XIX.	A. The Optic Nerve.
B. B.	The *Uvea* turn'd back, and there ſeparated from the *Retina*.
C. C.	Part of the *Retina* ſeen under the *Uvea*.
Fig. XX.	A. The *Retina* quite bare.
B. B.	The *Tunica Conjunctiva*, or White of the Eye.
C.	The *Cornea*.
D.	The Pupil of the Eye.
Fig. XXI.	Exhibits the *Glaſſy Tunicle* with the *Ligam. Ciliare*.
Fig. XXII.	Shews the *Aqueous Humour*, in the Middle whereof is an Hollow receiving the anterior Face of the *Cryſtalline*.
Fig. XXIII	Repreſents the *Vitreous Humour*, in the Middle of which is placed the *Cryſtalline*.
Fig. XXIV	A. The Form of the *Cryſtalline Humour*.
B.	The Tunicle which encloſes it.
Fig. XXV.	Exhibits a longitudinal Section of the Eye thro' the Pupil and Optic Nerve.
A. B. D. E.	The Circumference of the Section or Body of the Eye.
A. B.	The *Tunica Cornea*.
I. L.	The Pupil of the Eye.
Q. Q.	The *Aqueous* Humour.
N. O. P.	The *Cryſtalline* Humour.
R. R. R.	The *Vitreous* Humour.
M. N.	The Black Filaments, call'd *Ligam. Ciliare*.
D. E. G. H.	Part of the *Optic Nerve* with its Coats.
T.	The fine Capillaments thereof ariſing from the Brain, and
S. S. S.	Their curious Extenſion over the Bottom of the Eye on the *Retina*, on each Side, to the *Ligam. Ciliare*.
Fig. XXVI	Is a Scheme, ſhewing the Manner how *Viſion* is perform'd by the *Apparatus* of the Eye.

A. B. C. Is an Object preſented to the Eye. From the Point B let there proceed the Ray B Q, falling on the Aqueous Humour at Q, which (by the Laws of *Dioptrics*) is refracted from its firſt Direction towards the Center of the circular Arch Q Q; from Q then it paſſes through the Pupil at L to the *Cryſtalline* Humour at O, and paſſing through the ſame to P, it receives a ſtill farther Refraction, and (the *Cryſtalline* Humour being contrived with a ſpecial *Convexity*) it is ſuch as determines all the Rays, admitted by the Pupil L L, to converge or meet together in one Point (call'd the *Focus*) at the Diſtance of the Bottom of the Eye. And therefore all the Rays coming from B will be united in the Bottom of the Eye at *b*; and in like manner it is ſhewn that all the Rays proceeding from the Extremities of the Object A C, will be converged in the Bottom of the Eye at *a* and *c*: But the Focal Point is that where the Images of Objects are form'd by the *Lens's*; and conſequently *a b c* will be the Image of the Object A B C, but inverted, becauſe the viſual Rays interſect or croſs each other in paſſing through the *Lens* or *Cryſtalline* O O P P. Now this Image *a b c* is painted on the *Retina*, overſpread with the Filaments of the *Optic Nerve*, which receive the Species or Impreſſion thereof, and convey it to the Mind in the *Common Senſory* of the Brain, as hath been ſaid before.

Plate V.

Fig: I.



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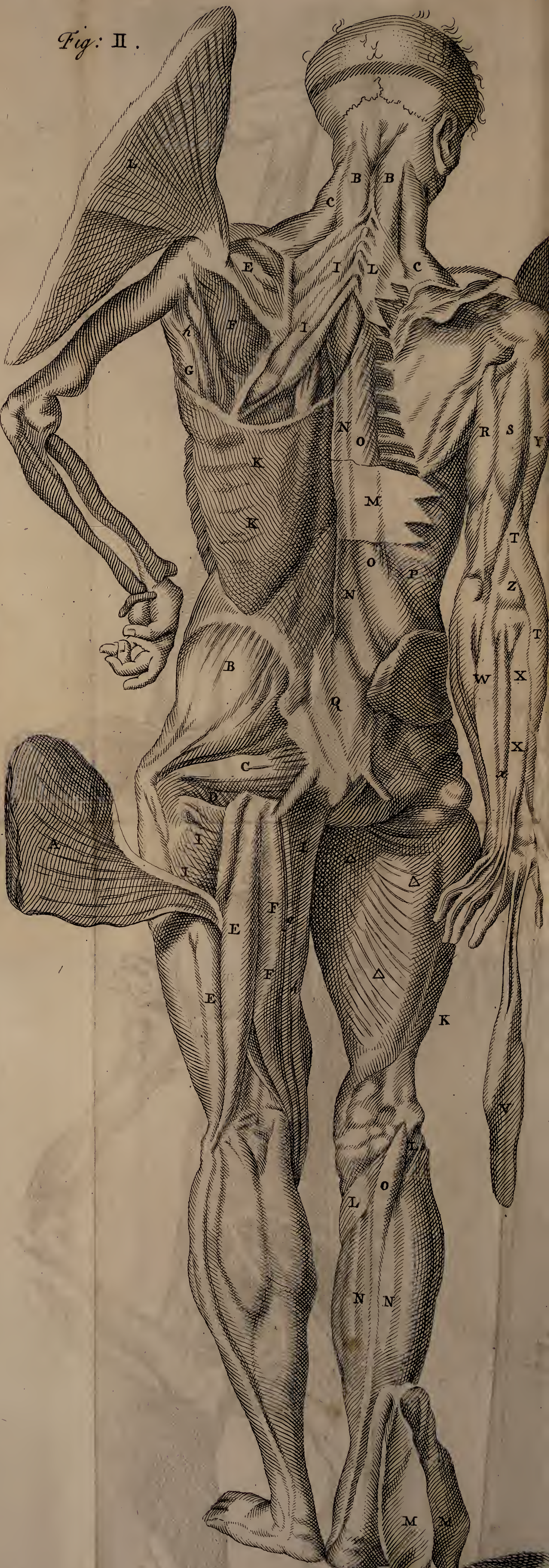


PLATE V.

Fig. I. EXhibits a View of the Muſcles on the anterior and inner Part of the Body.
A. A. The *Muſculi Longi*, or long Muſcles of the Neck.
B. The Muſcle call'd *Scalenus*.
C. The *Maſtoide* Muſcle.
d. d. The *Vertebræ* of the Neck.
E. The *Levator Scapulæ*.
F. F. The *Claviculæ*, or *Collar-Bones*.
G. G. The *Os Sternum*, or *Breaſt-Bone*.
H. The *Acromion* of the Shoulder-Bone.
i. i. The *Subclavian* Muſcle.
K. The *Pectoral* Muſcle.
L. The *Deltoide* Muſcle.
M. The *Biceps*.
N. The Muſcle call'd *Perforatus*, or *Coracobrachiæus*.
O. The *Serratus Minor*.
P. The *Serratus Major*.
q. q. q. q. The *Intercoſtal* Muſcles.
R. R. R. R. The Muſcle call'd *Brachiæus*, ſeen in each Arm on both Sides the *Biceps*.
S. S. The firſt or longeſt of the *Extenſores Brachii*.
T. T. The *Pronator rotundus* of the *Radius*.
V. The *Pronator quadratus* of the *Radius*.
W. The *Supinator longus* of the *Radius*.
X. The firſt or external *Flexor* of the *Wriſt*.
Y. The Muſcle call'd *Palmaris*.
Z. The internal *Flexor* of the *Wriſt*.
a. The Bone of the *Radius*.
b. The Bone of the Cubit connected thereto by a membranous Ligament.
c. The *Muſculus perforatus*, or perforated Muſcle.
d. The *Muſculus perforans*, or which perforates the other.
e. e. e. e. The *Lumbrical* Muſcles of the *Metacarpal* Bones.
f. The *Flexor* of the Thumb.
g. The *Adducent* Muſcles of the Thumb.

The following Alphabet *deſcribes the lower Part of* Fig. I.

A. A.	The *Pſoas* Muſcle.
B.	The *Iliac* Muſcle.
C.	The internal Obturator of the Thigh.
D. D.	The *Triceps.*
E.	The Muſcle call'd *Pectineus*, or *Lividus.*
F. F.	The *Muſculus Rectus* in the Left Leg in its Place; in the Right it hangs down.
G. G.	The *Vaſtus internus.*
H.	The *Vaſtus externus*, hanging down from the Right Thigh.
I. I.	The *Muſculus Membranoſus*, or *Faſcia lata.*
K. K.	The *Crureus*, or Crureal Muſcle.
L. L.	The *Longus*, *Faſcialis*, or *Sartorius.*
M. M.	The *Muſculus Gracilis.*
N. N.	The *Tibiæus.*
O. O.	The *Peronæus.*
P. P.	The Muſcle extending the four Leſſer Toes.
Q.	The Muſcle extending the Great Toe.
R.	The *Gaſtrocnemicus.*
r. r. r. r.	The *Muſculi interoſſei.*
S.	The tranſverſe Ligament of the Foot.
T.	The *Tibia.*
V.	The *Fibula.*
X.	The *Patella*, or Knee-pan.

Fig. II. Shews the principal Muſcles which offer themſelves to view on the poſterior Part of the Body.

A. A.	The *Muſculi Complexi.*
B. B.	The *Splenii.*
C. C.	The *Levatores* of the *Scapulæ.*
D.	The *Trapezius* rais'd out of its Place.
E.	The *Supra-ſpinatus.*
F.	The *Infra-ſpinatus.*
G.	The *Rotundus major.*

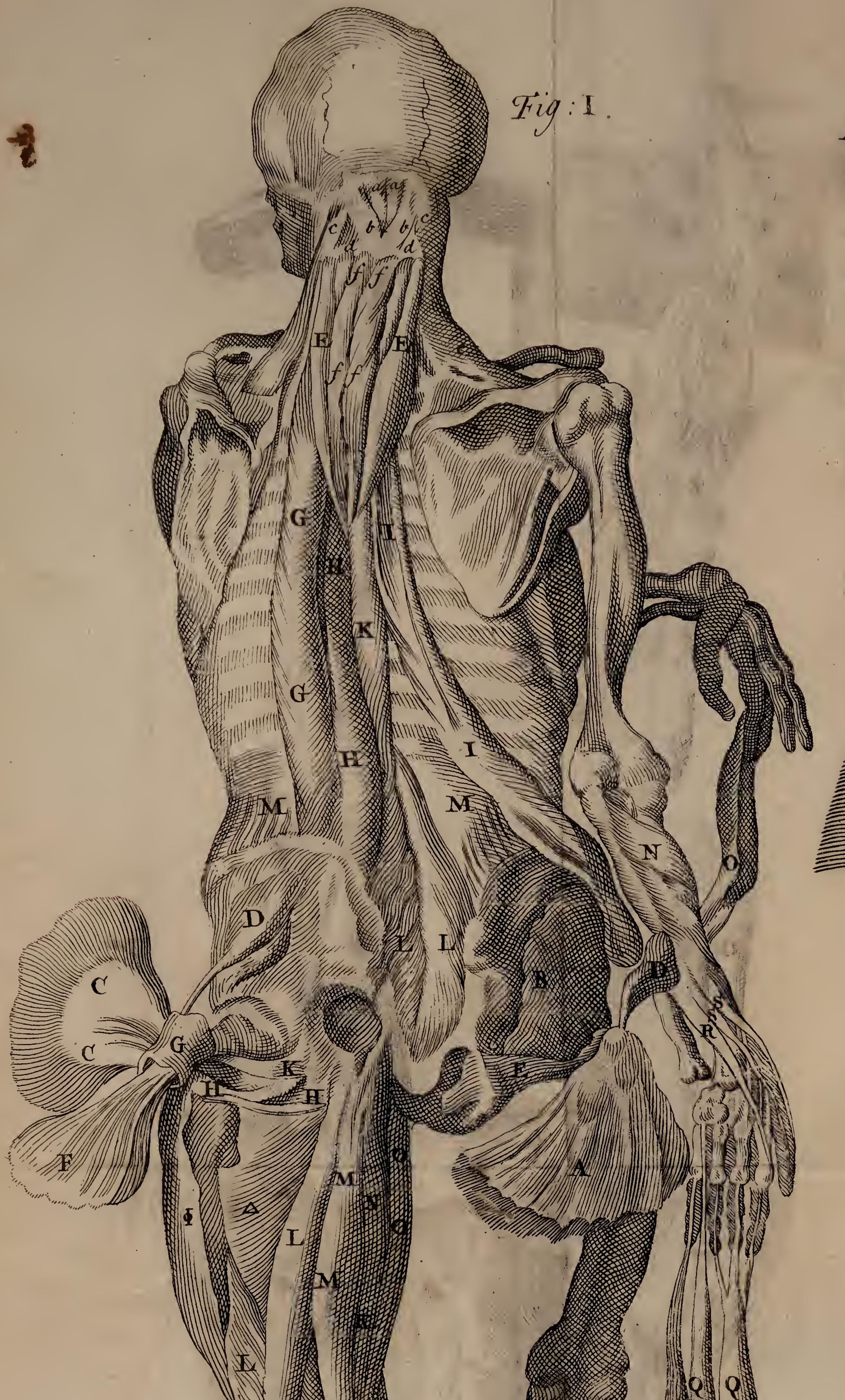
H. The *Rotundus minor.*
I. I. The *Rhomboides.*
K. K. The *Latiſſimus Dorſi.*
L. The *Serratus poſticus ſuperior.*
M. The *Serratus poſticus inferior.*
N. N. The *Longiſſimus Dorſi.*
O. O. The *Sacrolumbus.*
P. The *Quadratus.*
Q. The *Sacer Dorſi.*
R. The *Muſc. longus* extending the Arm.
S. The other *Extenſor*, call'd *Brevis.*
T. T. One of the *Supinatores Brachii.*
V. The firſt of the *Extenſores Carpi* hanging down.
W. The other *Extenſor Carpi.*
X. X. x. The two Extenders of the Fingers.
Y. The *Brachiæus externus.*
Z. The external *Apophyſis* of the Shoulder-Bone.

The following Alphabet *refers to the Muſcles of the Lower Joints.*

A. The *Glutæus major* out of its Place.
B. The *Glutæus medius.*
C. The *Muſculus Pyriformis*, or *Iliacus externus.*
D. The *Obturator internus*, alias *Marſupialis.*
E. E. The *Biceps* which bends the Leg.
F. F. The *Semimembranoſus.*
g. g. The *Seminervoſus.*
h. h. The *Gracilis.*
I. I. I. The *Triceps* in the Left Thigh.
K. The *Vaſtus externus.*
△. △. △. The *Triceps* laid bare in the Right Thigh.
L. L. The *Popliteus.*
M. M. The two *Gaſtrocnemii* removed from their Place.
N. N. The Muſcle call'd *Soleus.*
O. The *Muſculus Plantaris.*

Plate VI.

Fig: I.



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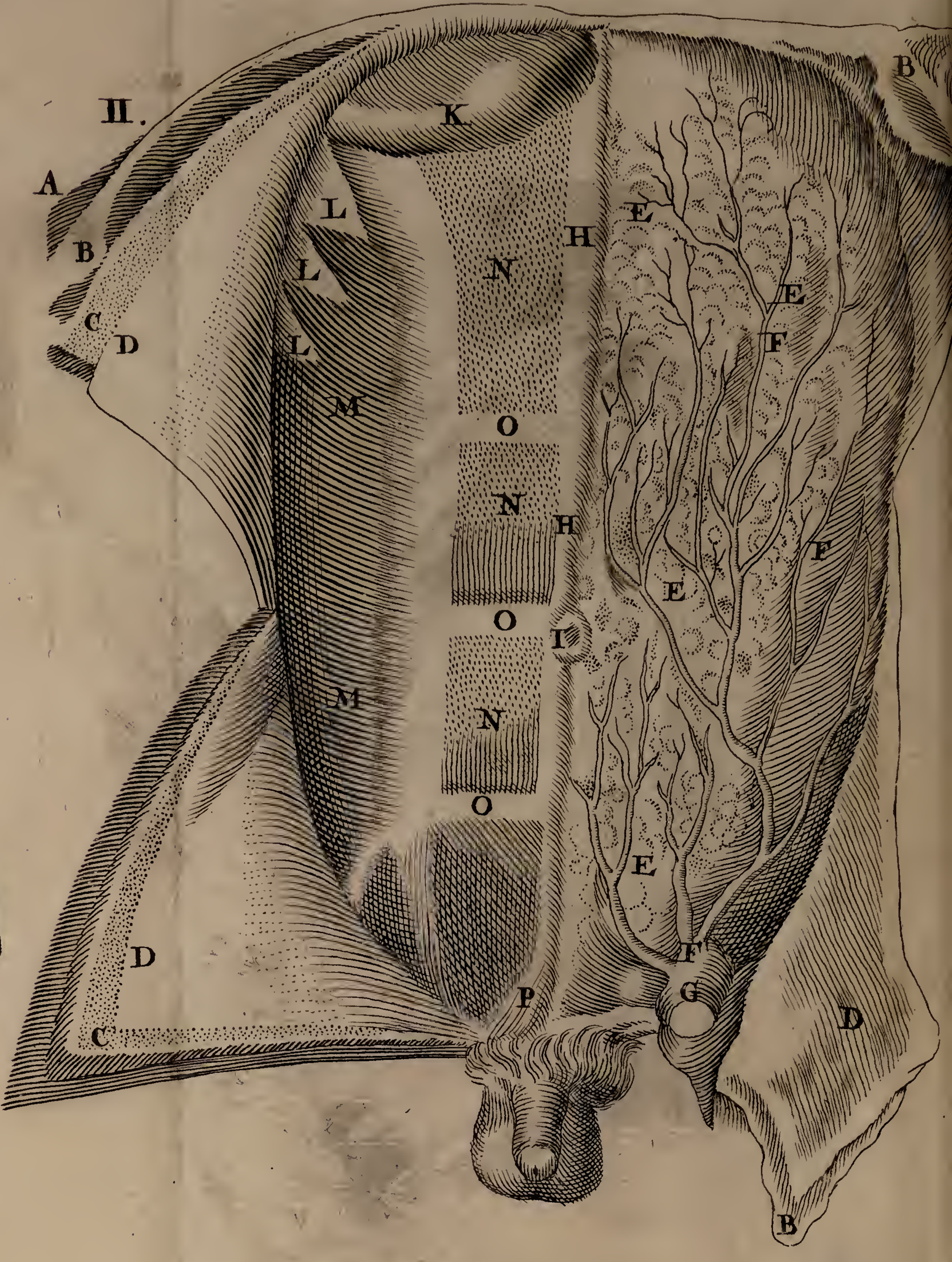

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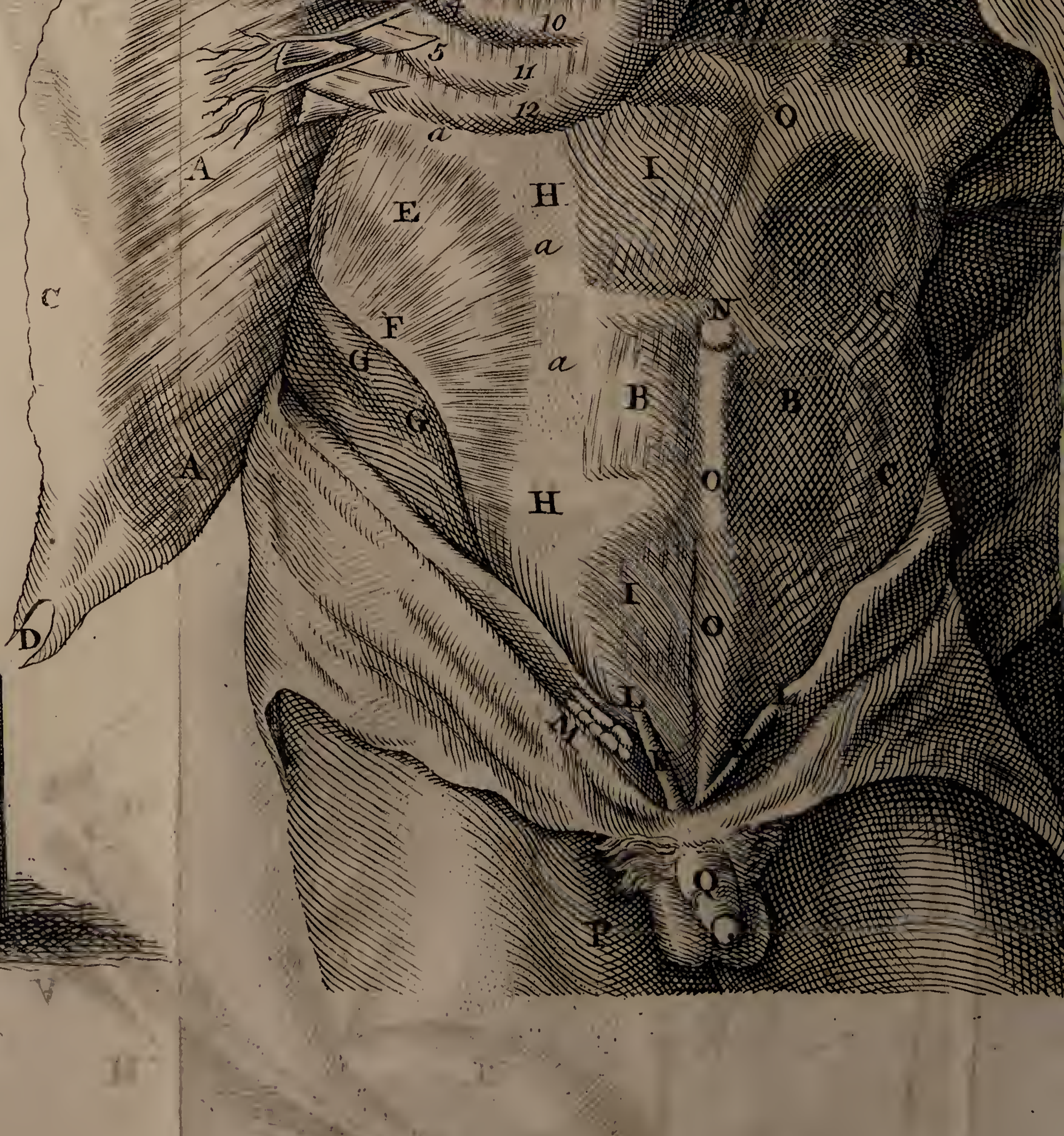


PLATE VI.

Fig. I. SHews the inmoſt Muſcles on the hinder Part of the Body.

a. a. The *Recti minores* of the Head.
b. b. The *Recti majores.*
c. c. The *Obliqui ſuperiores.*
d. d. The *Obliqui inferiores.*
e. The *Levator Scapulæ.*
f. f. The two *Spinati.*
E. E. The two tranſverſe Muſcles of the Neck.
G. G. The *Sacrolumbus.*
H. H. The *Longiſſimus Dorſi.*
I. I. The ſame removed out of its Place.
K. The *Semiſpinatus* of the Back.
L. L. The *Sacer Dorſi.*
M. M. The *Quadrati* of the Back.
N. The firſt *Supinator* of the Arm.
O. The *Bicornis* out of its Place.
P. The other *Extenſor* of the Wriſt.
Q. Q. Two *Extenders* of the Fingers out of Place.
R. The *Extender* of the Fore-finger.
S. S. The two *Extenders* of the Thumb.

The following Characters *deſign the Muſcles of the lower Parts.*

A. The *Glutæus medius* out of its Place.
B. The *Glutæus minimus* in its Place.
C. C. The ſame out of its Place.
D. D. The *Pyriform* Muſcle on each Side.
E. The *Obturator internus,* or *Marſupialis.*
F. The ſame on the Left-ſide out of its Place.
G. The *Marſupium,* or Purſe-like Part.
H. H. The *Obturator externus.*
K. The fourth of the *Quadrigemini.*
L. L. The *Biceps,* which bends the Leg.
M. M. The *Semimembranoſus.*

N. N.	The *Seminervoſus*
O. O.	The *Gracilis.*
Δ.	The *Triceps.*
Φ.	The *Crureus.*
P. P.	The *Tibiæus poſticus.*
Q. Q.	The *Perforans* of the Foot.
R.	The *Perforatus.*
S. S. S.	The Bender of the Great Toe.
t.	The *Adductor Pollicis.*
u.	The *Abductor* of the ſame.
x.	The *Abductor minimi Digiti.*
z.	The fleſhy Part of the Bottom of the Foot.
Fig. II.	Exhibits a View of the common Integuments of the Abdomen ſeparated by Diſſection, with the Fat, *&c.* on one Side, and ſome Muſcles expreſs'd on the other.
A. A.	The *Cuticle*, or Scarf-Skin.
B. B. B. B.	The *Cutis*, or true Skin.
C. C.	The Fat ſeparated from
D. D.	The *Membrana carnoſa*, or *Adipoſa.*
E. E. E.	The Fat in its natural Site remaining on one half of the Abdomen.
F. F. F.	Veſſels diſperſed thro' the ſame.
G.	Copious Glands in the *Inguen.*
H. H.	The *Linea Alba.*
I.	The *Umbilicus*, or Navel.
K.	Part of the Pectoral Muſcle.
L. L. L.	The Teeth of the *Serratus anticus major.*
M. M.	The *Obliquè Deſcendens.*
N. N. N.	The *Rectus*, with
O. O. O.	The nervous Inſcriptions thereof.
P.	The Right pyramidal Muſcle *in ſitu.*
Fig. III.	Exhibits to View ſeveral Muſcles and other Parts of the Abdomen.
A. A.	The *Obliquè Deſcendens* rais'd, ſhewing its Beginning and Inſertion of Nerves.

B. B. The *Muſculi Recti* on each Side.

C. C. Marks the Tract where the *Obliquè Deſcendens* becomes membranous.

D. The Hole therein, thro' which the Spermatic Veſſels paſs to the *Teſtes*.

E. The *Obliquè Aſcendens*.

F. Its carnous Origin from the Spine of the *Os Ilii*.

G. The ſaid Spine or *Appendix* of the *Os Ilii*.

H. H. The Line where the Tendons of the Oblique Muſcles begin.

I. I. The Right Muſcle ſeen thro' the ſaid Tendons.

K. K. The Productions of the *Peritonæum* incloſing the *Spermatics* at their Exit for the *Teſtes*.

L. L. Perforations in the lower Part of the *Aſcendens* and *Rectus* for the Egreſs of the Spermatic Veſſels.

M. The *Glandules* of the *Inguen* laid bare.

N. The Navel.

O. O. O. The *Linea Alba*.

P. The Thigh near the *Pudenda*.

Q. The *Penis*.

1. 2. 3. 4. 5. } The Nerves iſſuing out from under the Ribs, and ſpreading over the *Obliquè Deſcendens*.

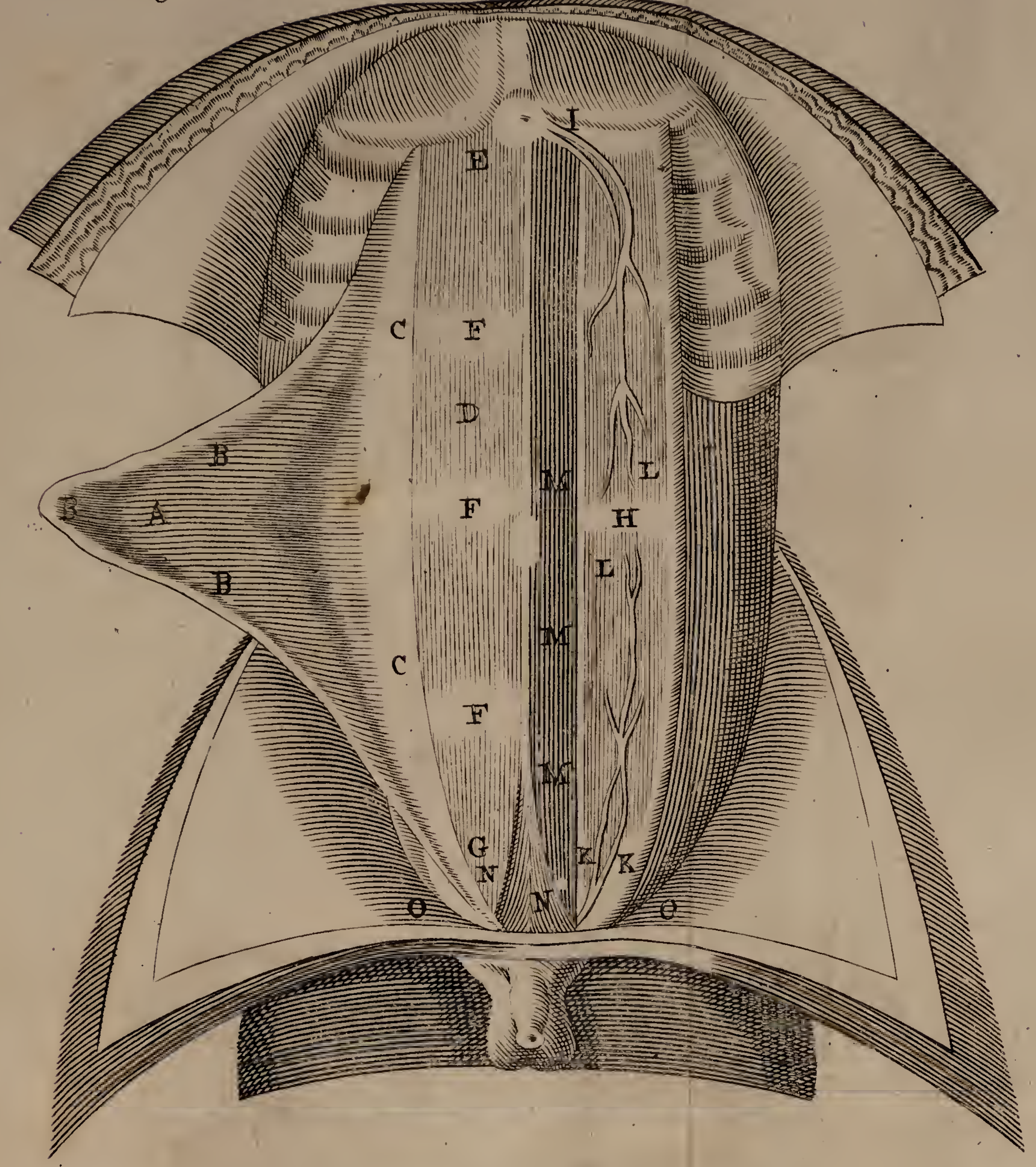
9. 10. 11. 12. The four inferior Ribs.

a. a. a. The Fibres of the *Obliquè Aſcendens*.

PLATE VII.

Plate VII.

Fig. I.



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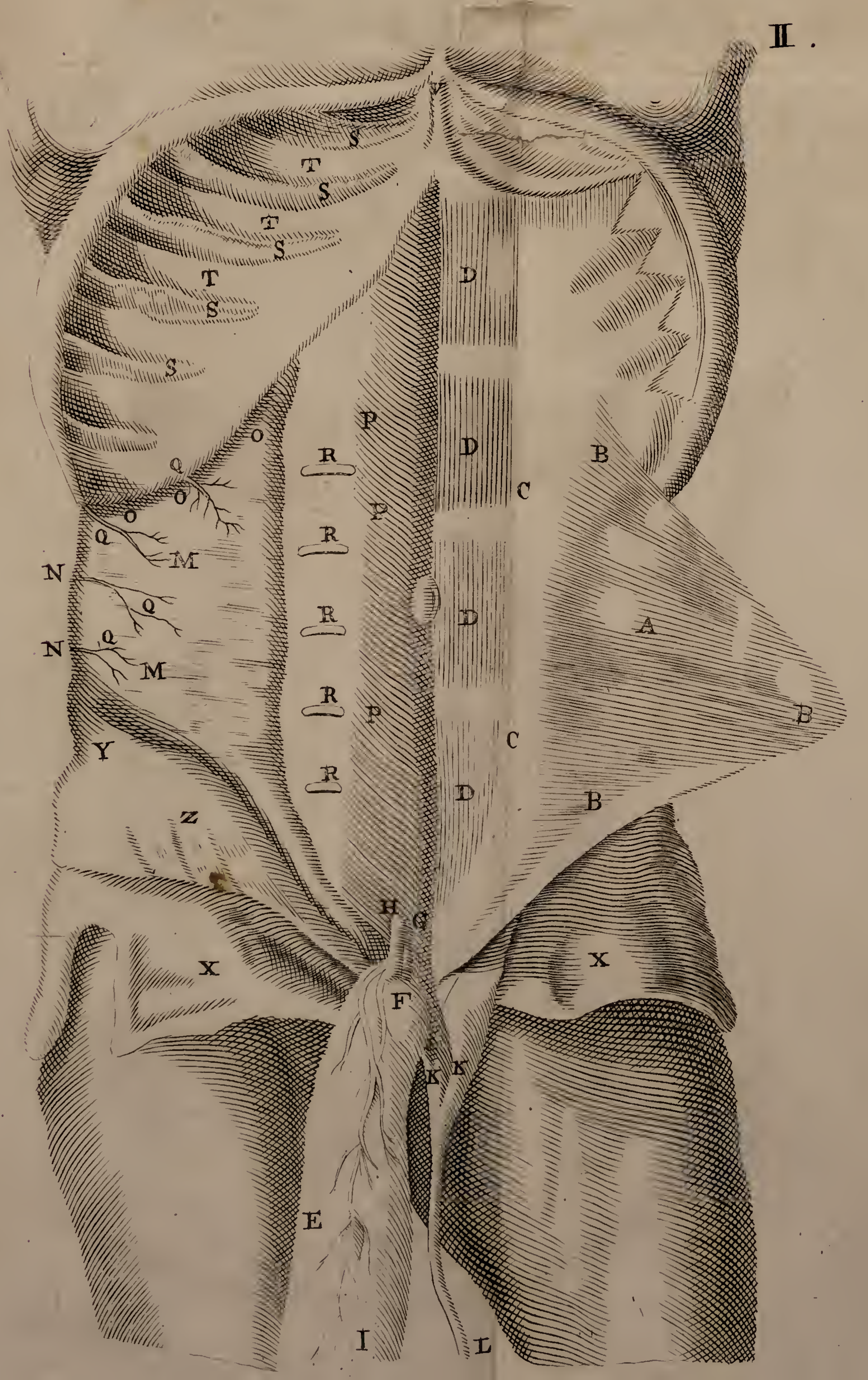

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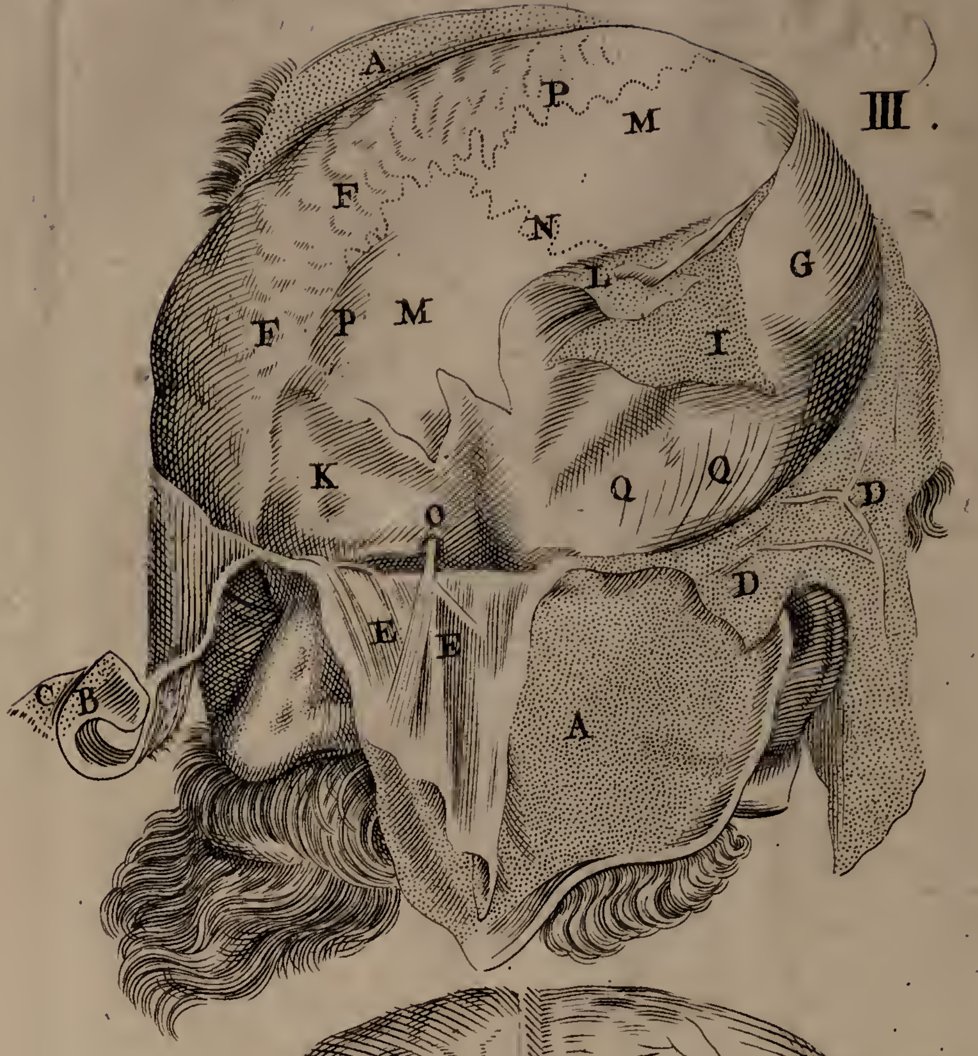

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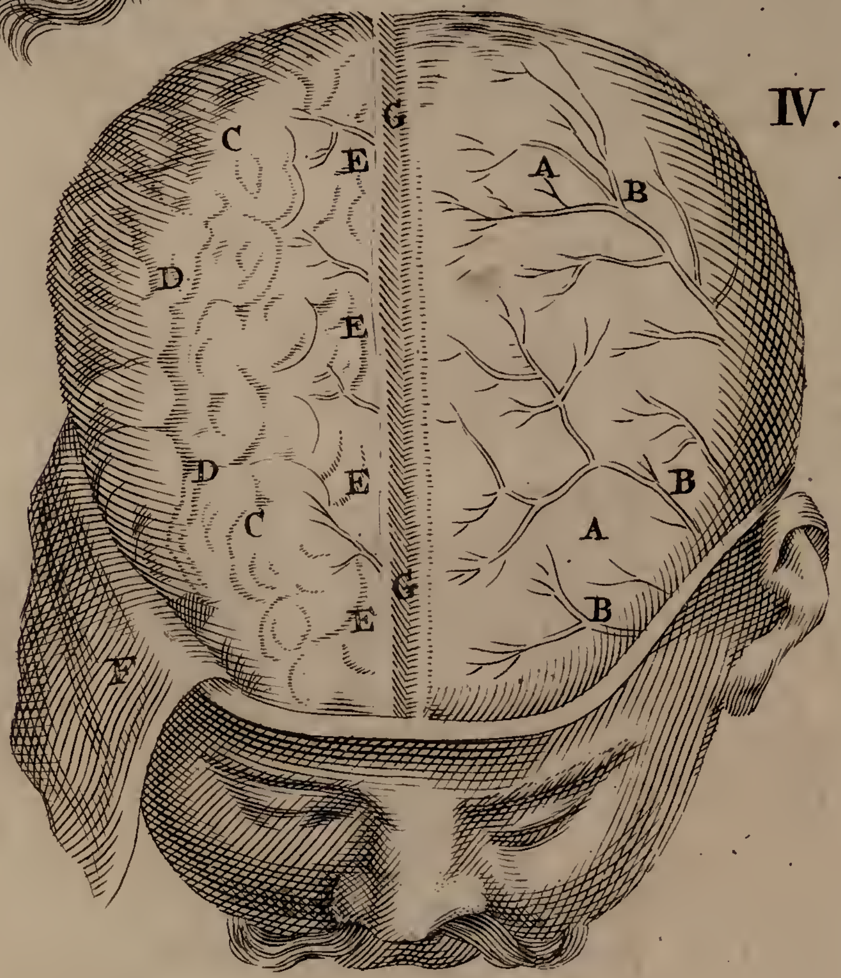

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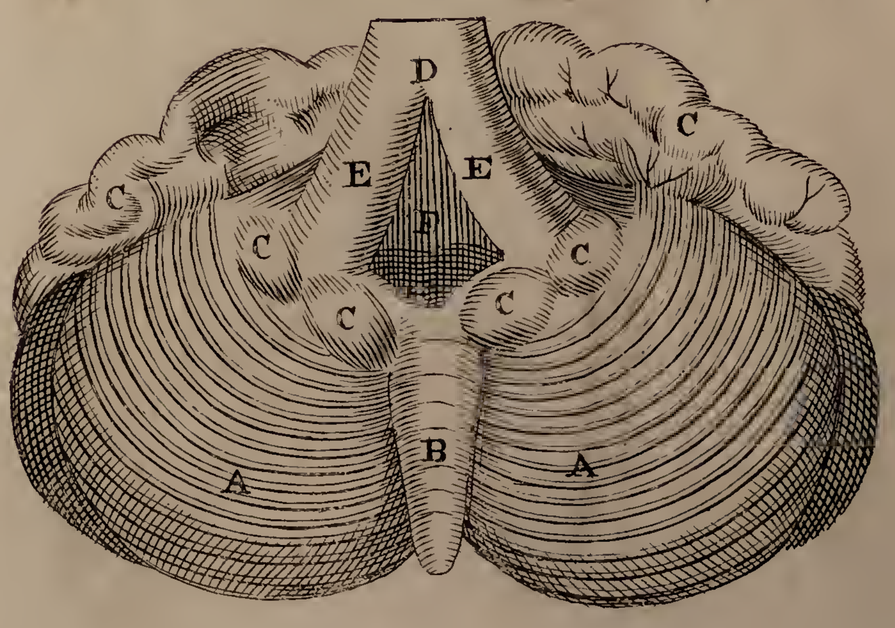

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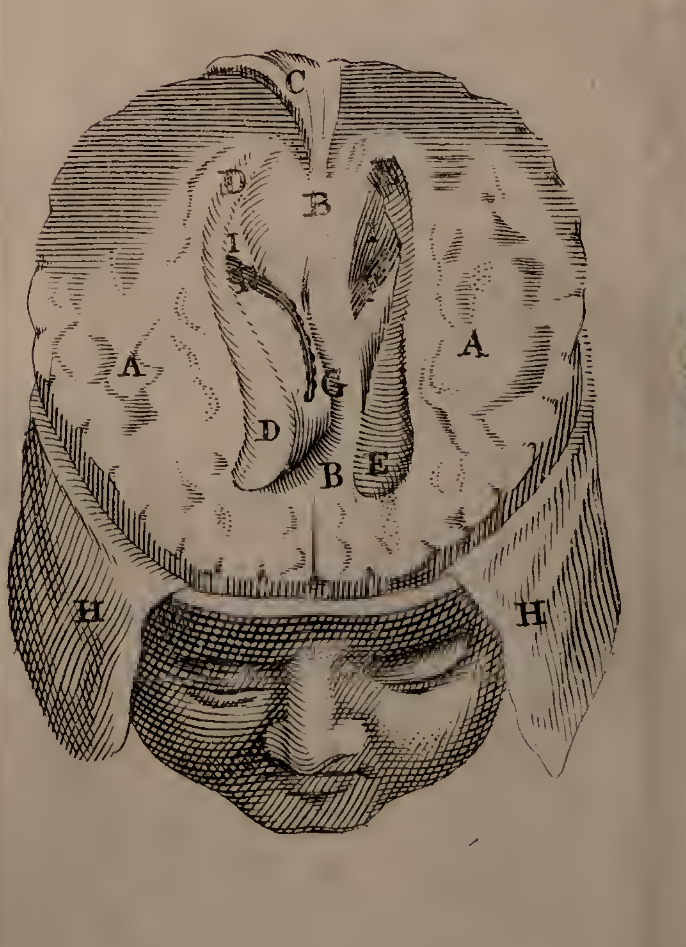

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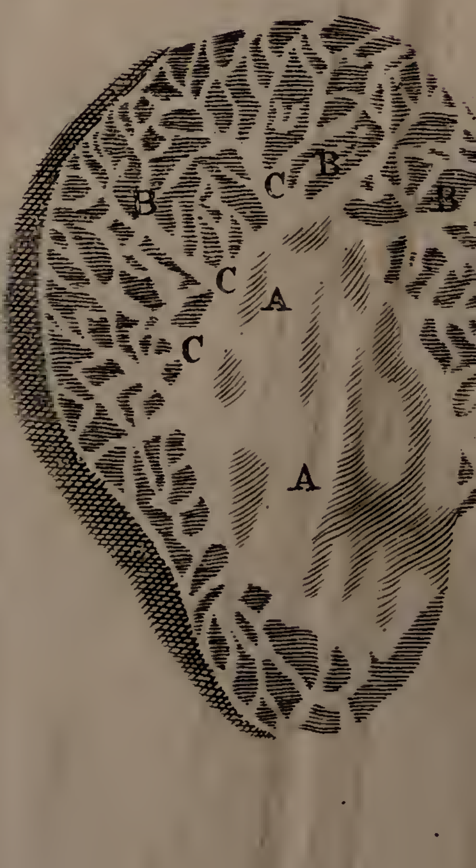


PLATE VII.

Fig. I. SHews ſome other Muſcles and Veſſels of the *Abdomen.*

A. The *Tranſverſe Muſcle* raiſed about its Beginning.

B. B. B. Its Beginning.

C. C. Part of its Tendon.

D. The *Muſculus Rectus.*

E. Its Beginning.

F. F. F. The tendinous Inſcriptions thereof.

G. Its End.

H. The poſterior Face of the other *Muſculus Rectus.*

I. The *Mammary* Vein and Artery deſcending thereon.

K. K. The *Epigaſtric* Vein and Artery.

L. L. The *Anaſtomoſis* of the Veins.

M. M. The *Peritonæum* laid bare of Muſcles.

N. N. The Pyramidal Muſcles.

O. O. The Proceſſes of the *Peritonæum* deſcending to the *Scrotum.*

Fig. II. A. The oblique aſcending Muſcle raiſed.

B. B. Its Beginning.

C. C. A Portion of its Tendon which covers the *Rectus.*

D. D. D. The *Muſculus Rectus in ſitu.*

E. The interior Face of the *Rectus* raiſed from its Place.

F. Its lower Extremity adhering to the *Os Pubis.*

G. H. The *Epigaſtric* Vein and Artery thereon.

I. Their Concourſe with the Mammary Veſſels.

K. K. The Pyramidal Muſcles raiſed from their Place.

L. Their Tendon reaching to the Navel.

M. M. The Tranſverſe Muſcle *in ſitu.*

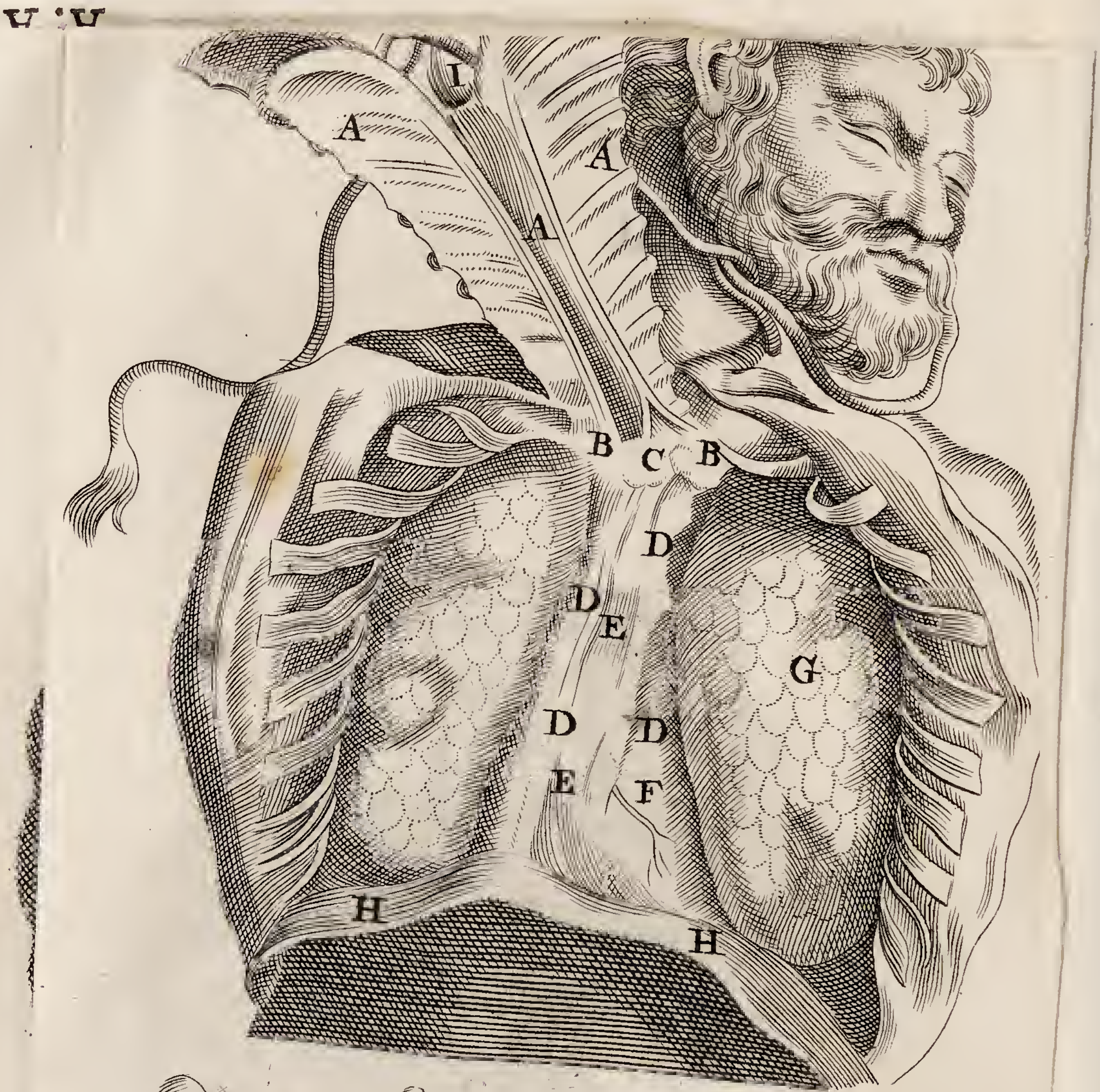
N. N. Its firſt and nervous Origin.

O. O. O. Its ſecond carnous one.

P. P. P. Its Tendon inſerted in the *Peritonæum.*

Q. Q. Q. Nerves proceeding from the Spinal Marrow.

R. R. R. Branches of *Veins* and *Arteries* from the *Rectus*, cut off at their Paſſage thro' the Tranſverſe Muſcle.



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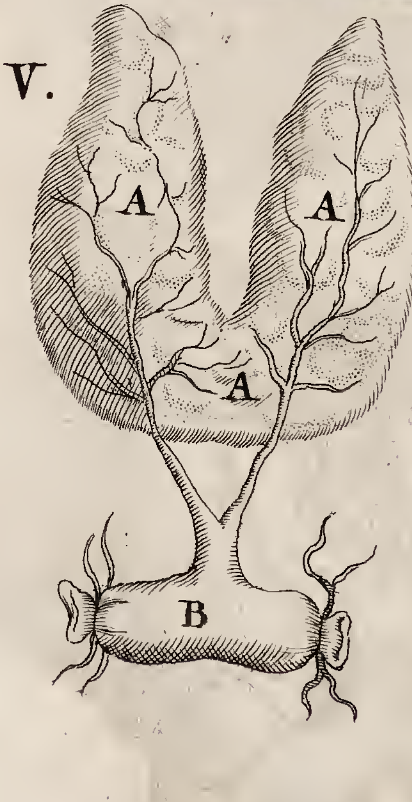


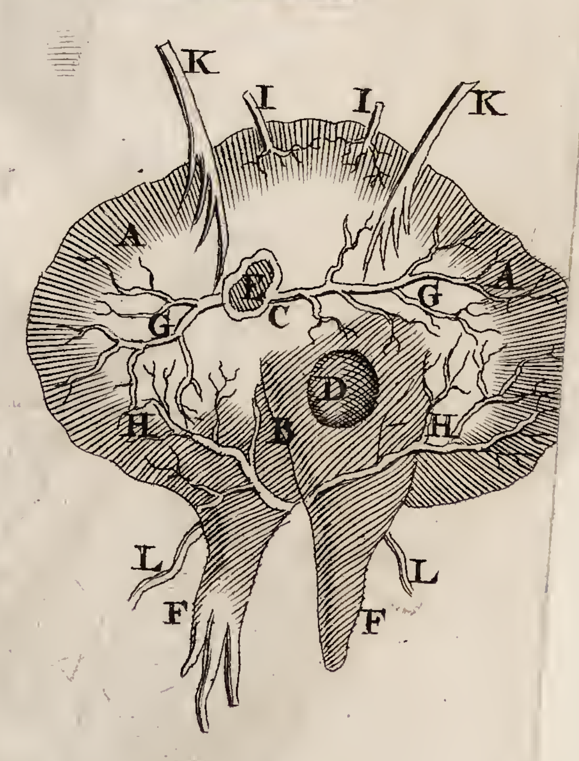
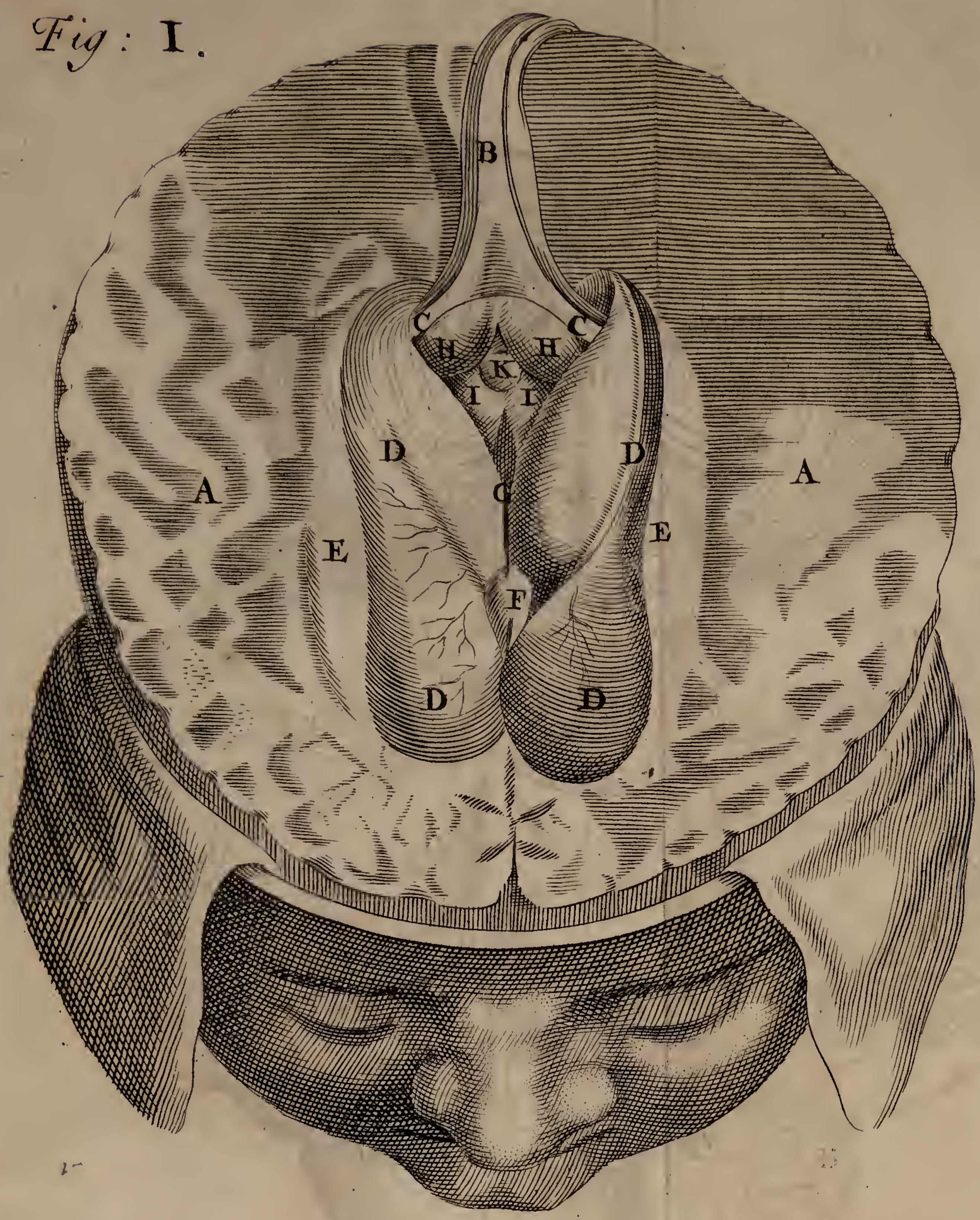


Plate VIII.

Fig: I.



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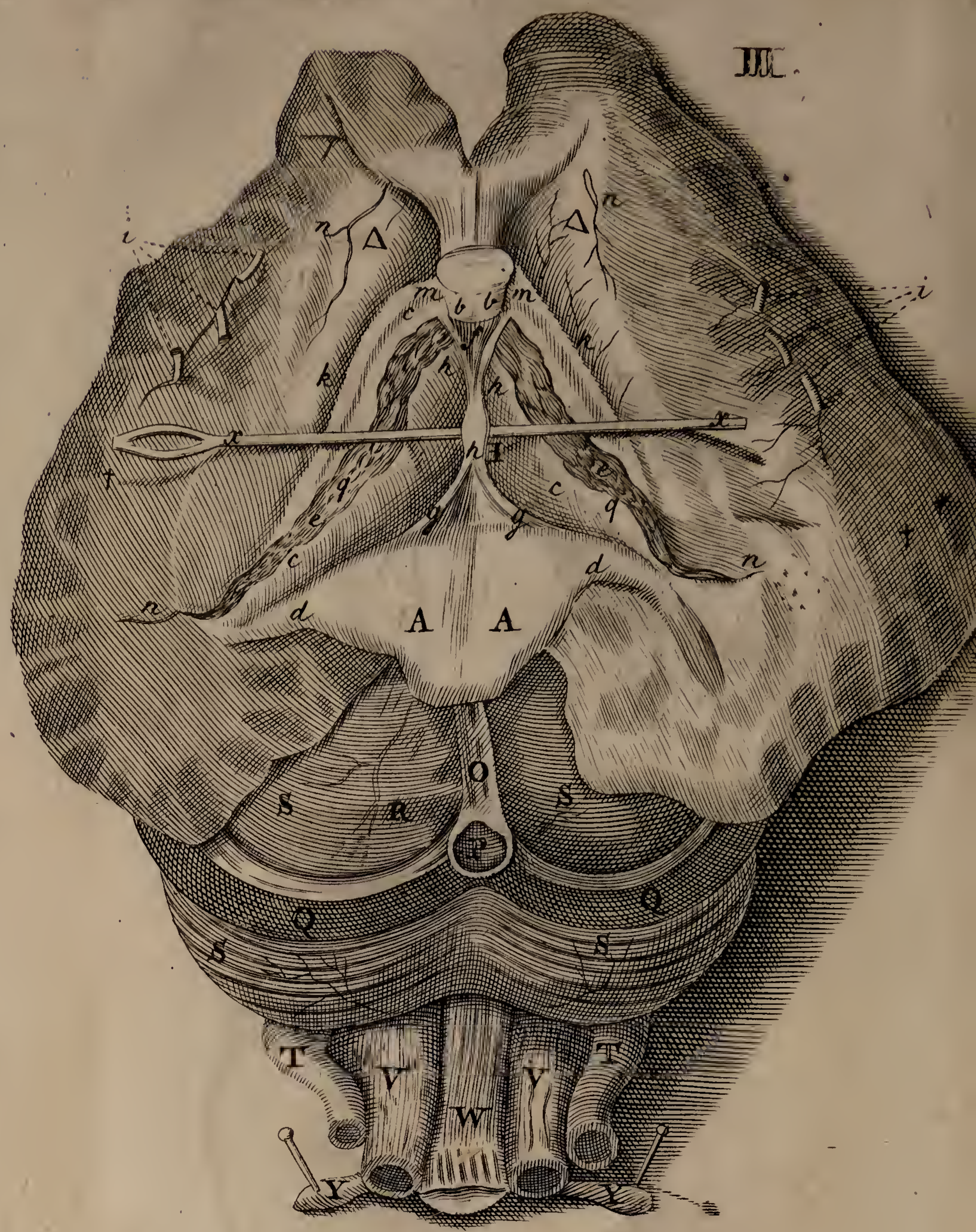

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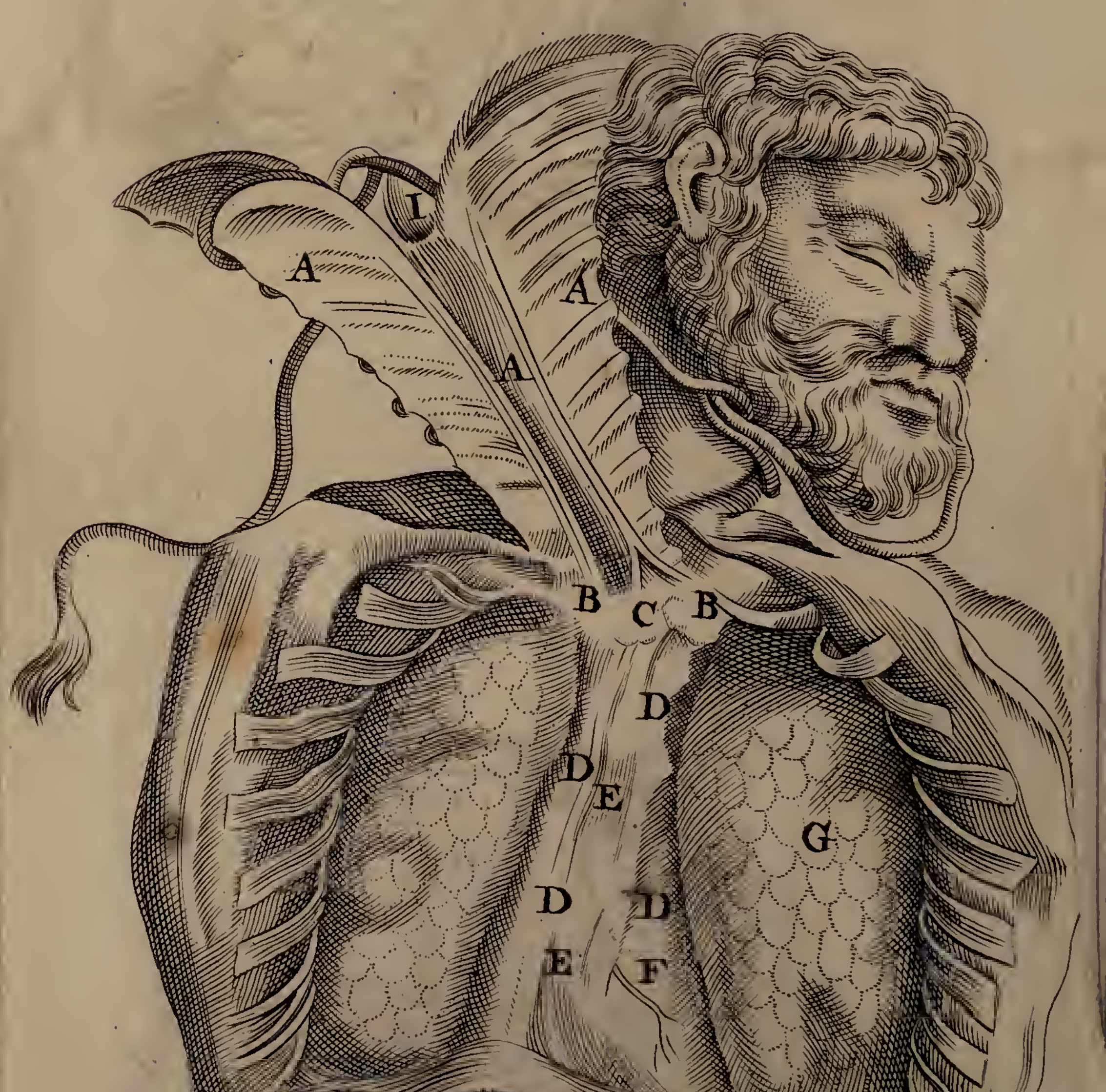

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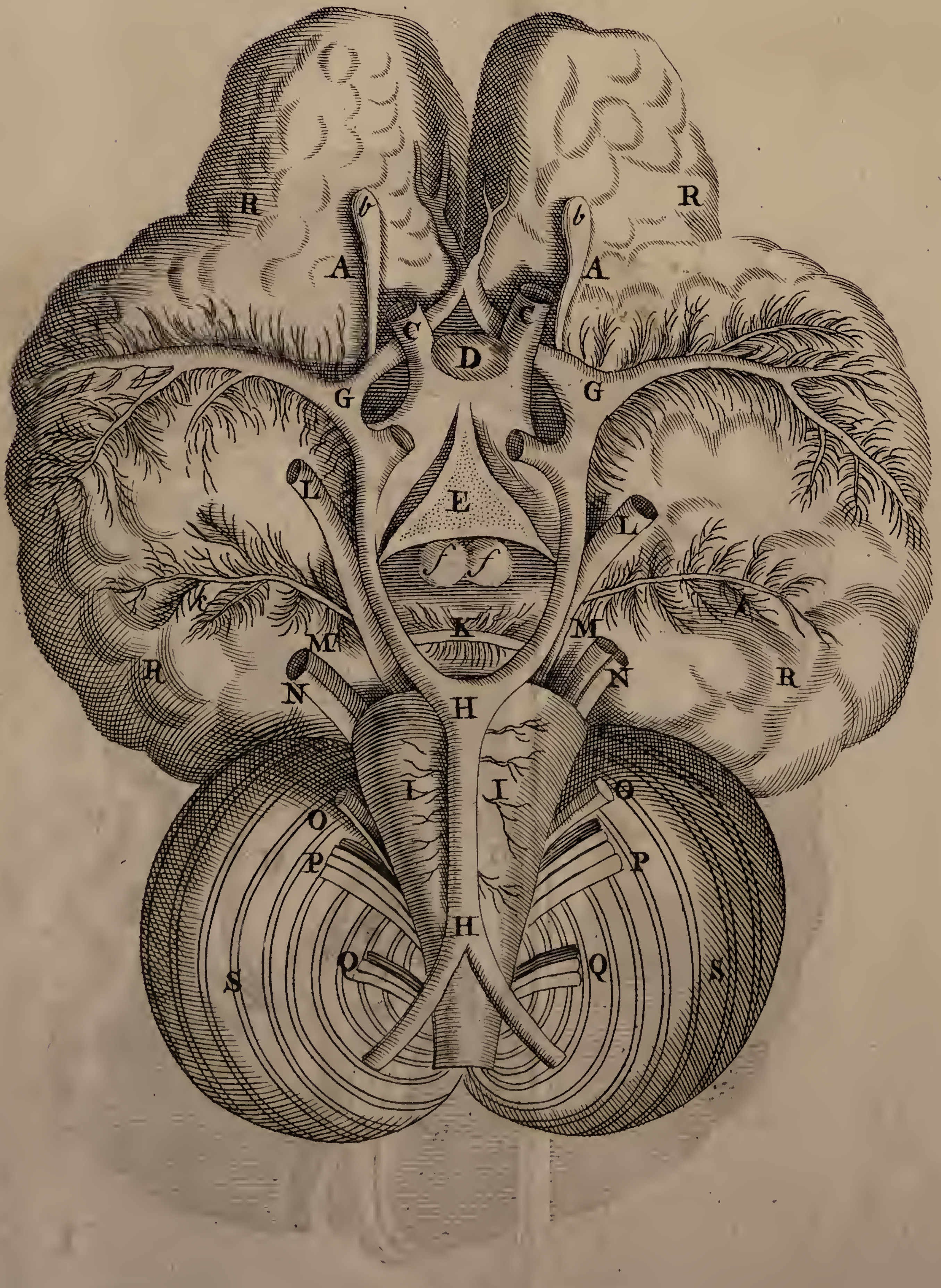

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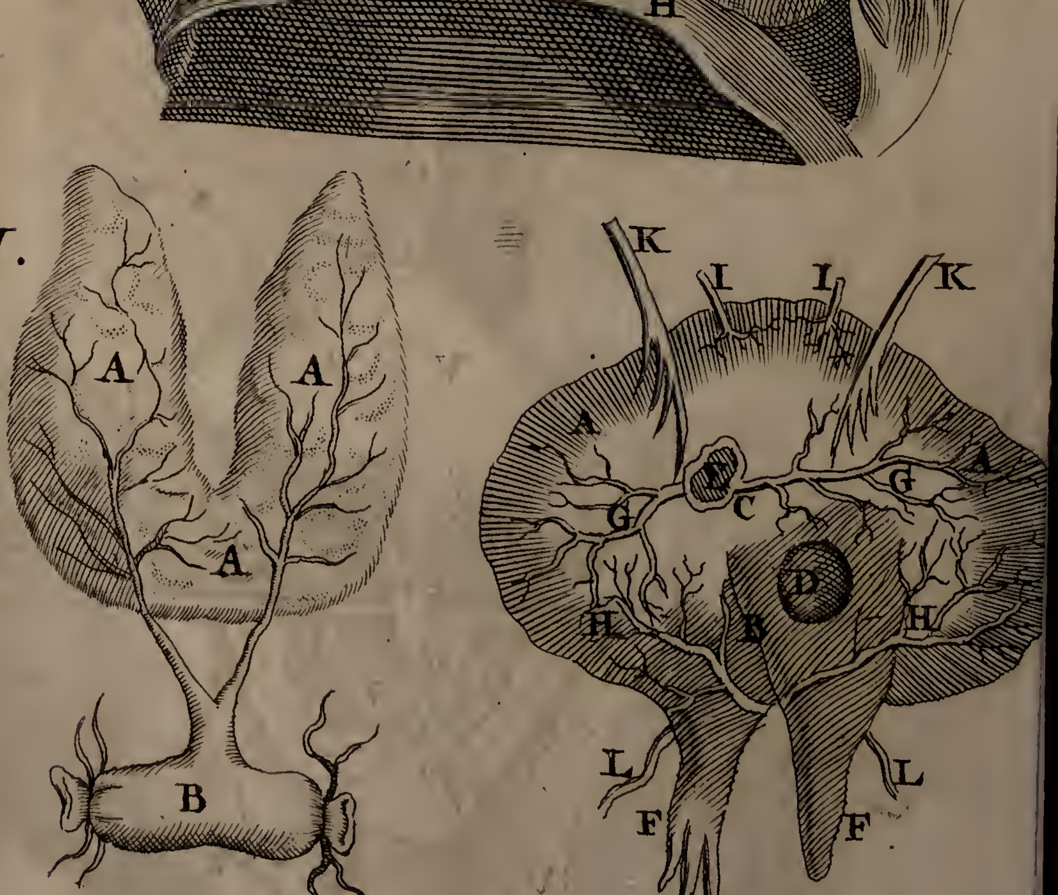


PLATE VIII.

Fig. I.	IS a large tranſverſe Section of the Brain, ſhewing the Parts under the *Fornix*, &c.
A. A.	The internal Part of the Brain.
B.	The *Fornix* raiſed and turn'd back.
C. C.	Its Expanſions, or *Crura poſtica.*
D. D.	The Bottoms of the Anterior Ventricles.
E. E.	The Sides thereof.
F.	The anterior Hole of the third Ventricle, call'd the *Vulva.*
G.	The Chink ſhewing the third Ventricle.
H. H.	The Protuberances call'd the *Nates.*
I. I.	The others call'd the *Teſtes.*
K.	The *Glandula Pinealis.*
Fig. II.	Is a View of the Baſis or under Part of the Brain, and of the Origin of the Nerves ariſing from thence.
A. A.	The *Olfactory Nerves.*
b. b.	Their Papillary Proceſſes.
C. C.	The Optic Nerves.
D.	The Pituitary Gland.
E.	The *Infundibulum.*
f. f.	Two white Glands.
G. G.	The greater Branch of the *Carotide* Artery.
H. H.	The *Cervical* Artery.
I. I.	The Beginning of the Spinal Marrow.
K. *k. k.*	Small Branches of Arteries forming the *Rete Mirabile.*
L. L.	The third Pair of Nerves.
M. M.	The Beginning of the fifth Pair.
N. N.	The Beginning of the ſixth Pair.
O. O.	The Auditory Nerves, or eighth Pair.
P. P.	The Beginning of the ninth Pair.
Q. Q.	The Riſe of the tenth Pair.
R. R.	The inferior Surface of the Brain.
S. S.	The ſtriated Body of the *Cerebellum.*
Fig. III.	Is another tranſverſe Section of the Brain, with the Blood-Veſſels firſt injected with Wax.

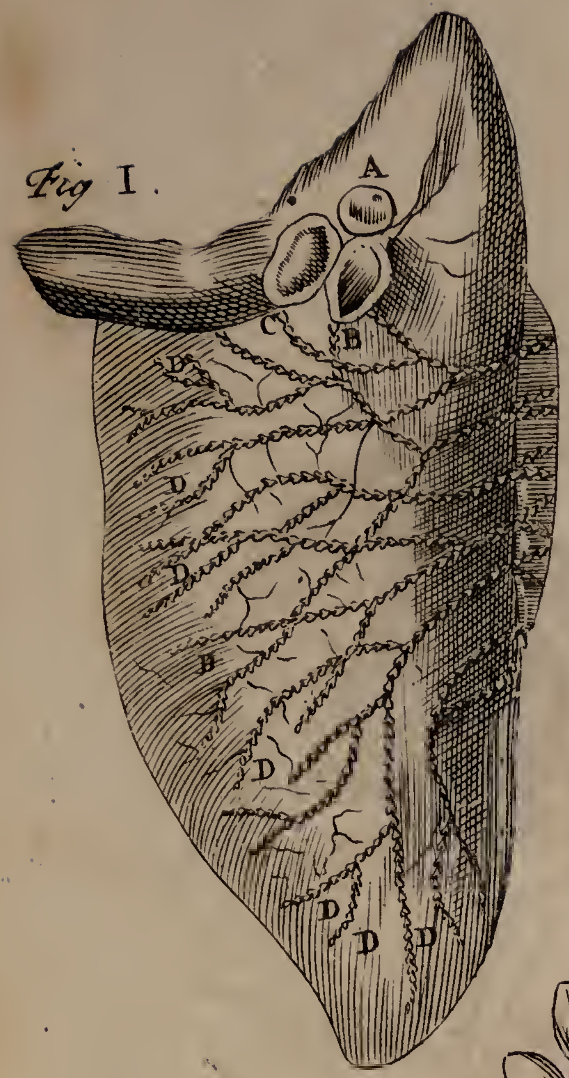
A. A. The

A. A.	The *Fornix* cut off and turned back.
b. b.	Its Roots at the beginning of the *Thal. Nervorum Optic.*
c. c.	The *Thalami Nervorum Opticorum.*
d. d.	Part of the *Crura Fornicis.*
e. e.	Part of the *Plexus Choroides.*
f.	The Place where the two *Plexus's* from each Side meet under the *Fornix.*
g. g.	Deſign the Place of the other Part of the *Plexus* under the *Crura Fornicis*, not to be ſeen here.
h. h.	Two large Veins proceeding from one Part of the *Plexus* to the other.
i. i.	The Trunks of ſeveral Arteries as they appear'd when cut off in the Diſſection of the Brain.
k. k.	A Venous Branch from each Side entering the *Plexus.*
l.	The *Rima* of the third Ventricle.
m. m.	A long medullary Tract between the *Thal. Nerv. Opt.* and *Corpora Striata.*
Δ. Δ.	The *Corpora Striata* whole.
n. n.	The *Centrum Ovale* of *Vienſſens.*
O.	The firſt *Sinus* of the *Dura Mater.*
P.	The *Torcular*, where the *Sinus's* meet.
Q. Q.	The lateral *Sinus's.*
R.	A large Vein entering the lateral *Sinus.*
S. S.	The *Cerebellum* cover'd with the *Dura Mater.*
T. T.	The Vertebral Arteries.
V. V.	The Vertebral *Sinus's.*
W.	The *Medulla Spinalis* with its Integuments.
X. X.	The *Style* ſupporting the large Veins of the *Plexus Choroides* in the third Ventricle.
Y. Y.	Two of the Cervical Nerves ſpringing from the *Medulla Oblongata.*
q. q.	The Lympheducts of the *Plexus Choroides.*
Fig. IV.	Exhibits a View of what appears to the Sight on diſſecting and raiſing the *Os Sternum.*

A. A. A. The

A. A. A.	The *Sternum*, or Breaſt-bone, cut off from the Cartilages of the Ribs, and rais'd up.
B. B.	The Mammary Veins and Arteries deſcending under the *Sternum.*
C.	The Gland call'd *Thymus.*
D. D.	The Sides of the *Mediaſtinum* ſeparated from the *Sternum.*
E. E.	The Interval or Space between them.
F.	The Protuberance of the *Mediaſtinum*, where the Heart is ſituated.
G. G.	The Lungs in their natural Site.
H. H.	The Diaphragm.
I.	The *Cartilago enſiformis.*
Fig. V.	Shews the Situation of the *Thymus* at the *Larynx.*
A. A. A.	The Glandulous Subſtance of the *Thymus.*
B.	A Portion of a Jugular Vein, which ſends forth two Branches through all its Subſtance.
Fig. VI.	Is a View of the Diaphragm and its Veſſels.
A. A.	The fibrous or carnous Part of the Diaphragm.
B.	The hinder Part conſiſting of circular Fibres.
C.	Its middle tendinous Part.
D.	The Paſſage for the Gullet.
E.	Another Perforation for the *Vena Cava.*
F. F.	The two Appendices thereof, between which the Great Artery deſcends.
G. G.	The Phrenic Veins, from the *Cava.*
H. H.	The Phrenic Arteries, from the *Aorta.*
I. I.	Other ſmall Blood-Veſſels.
K. K.	The Nerves on the anterior Part, from the *Cervicals.*
L. L.	The Nerves on the poſterior Part, from the *Intercoſtals.*

Fig I.



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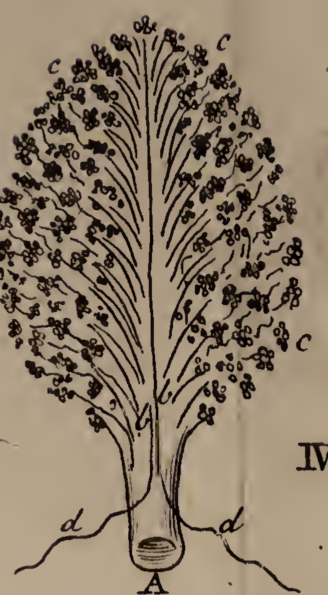

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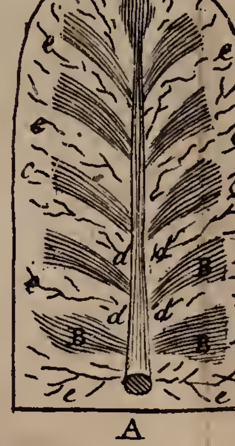

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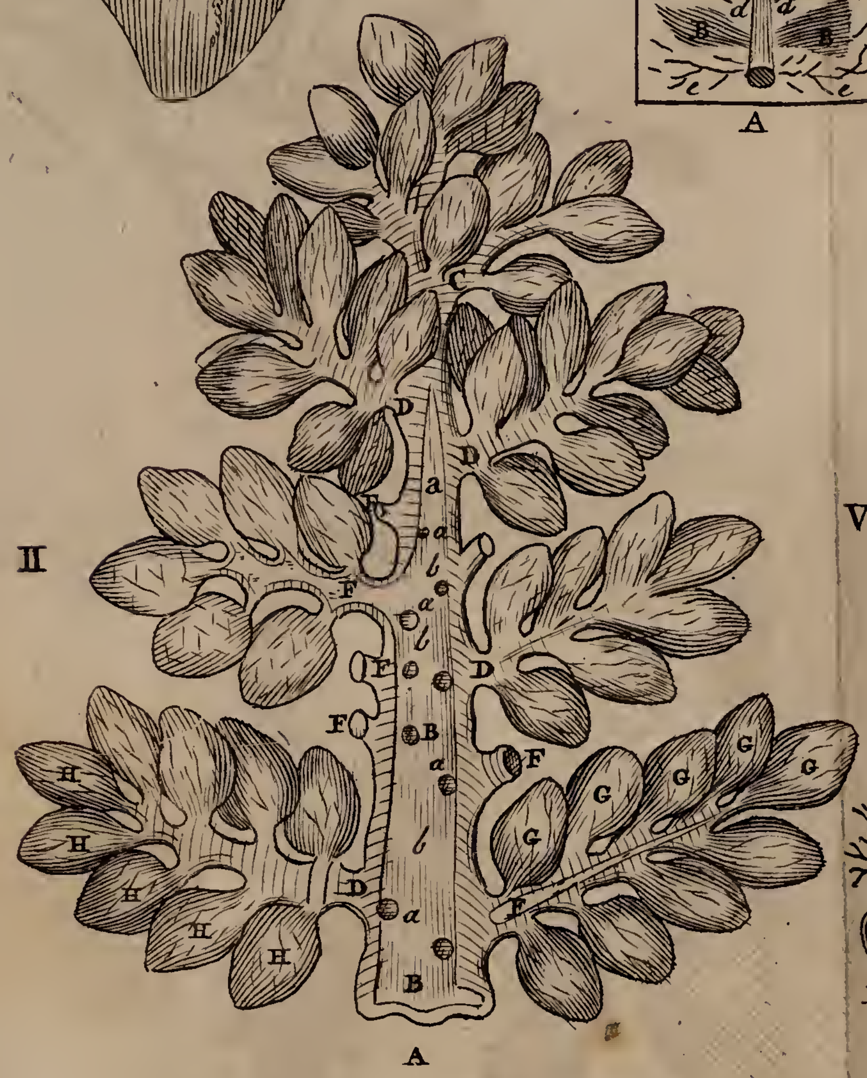

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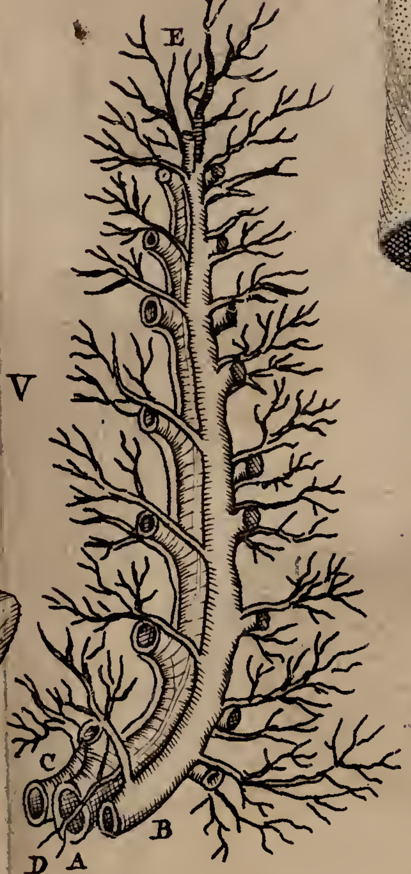

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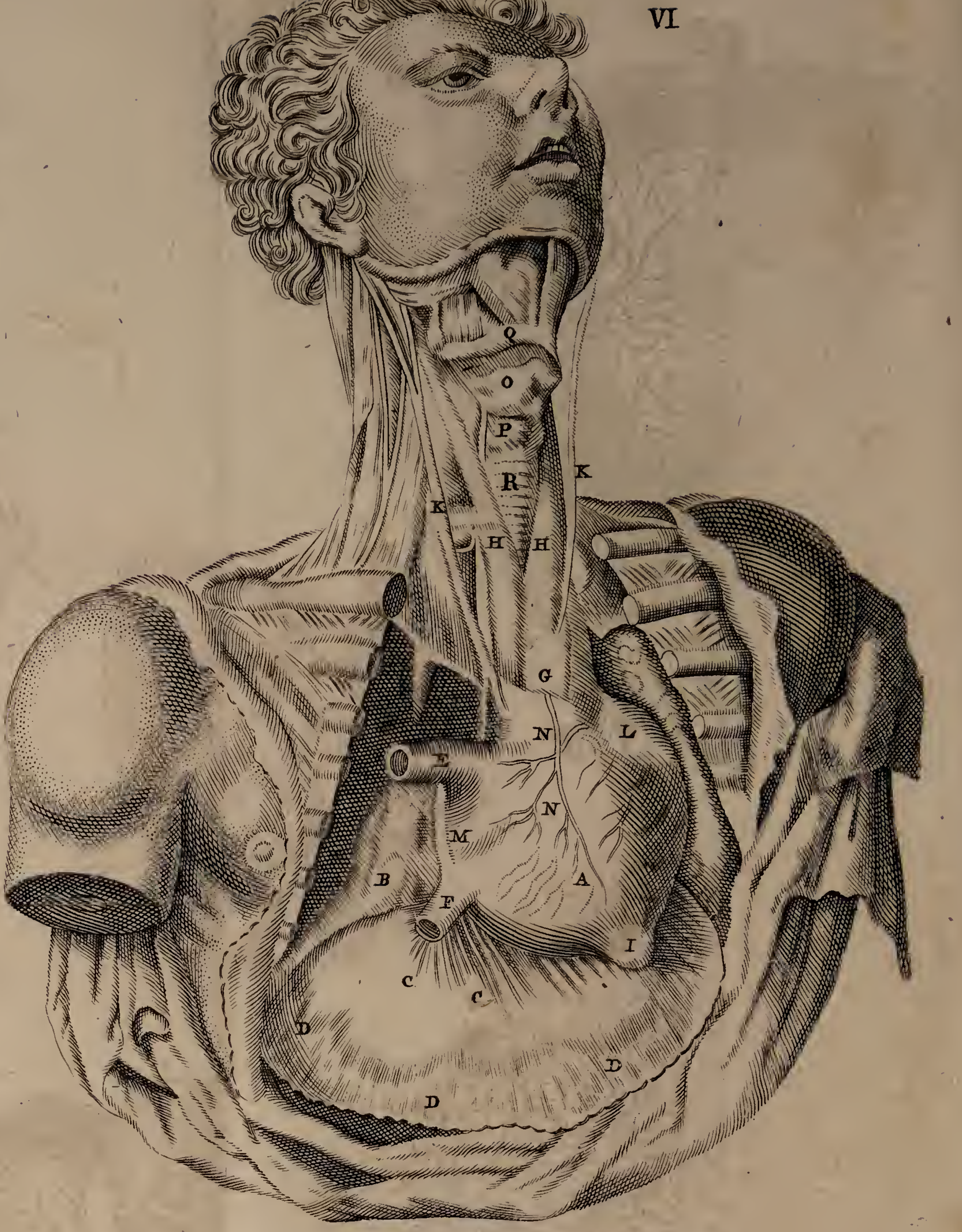

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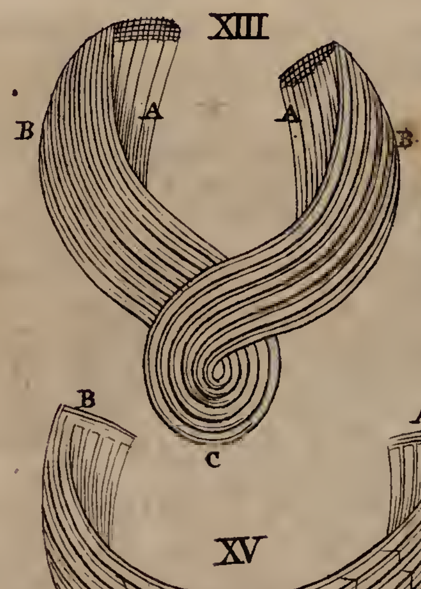

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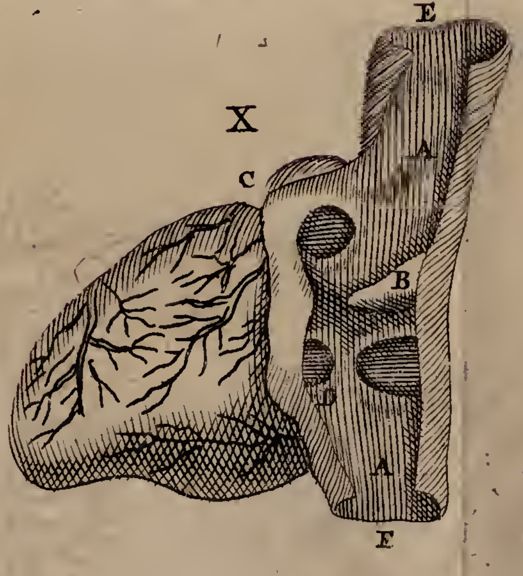

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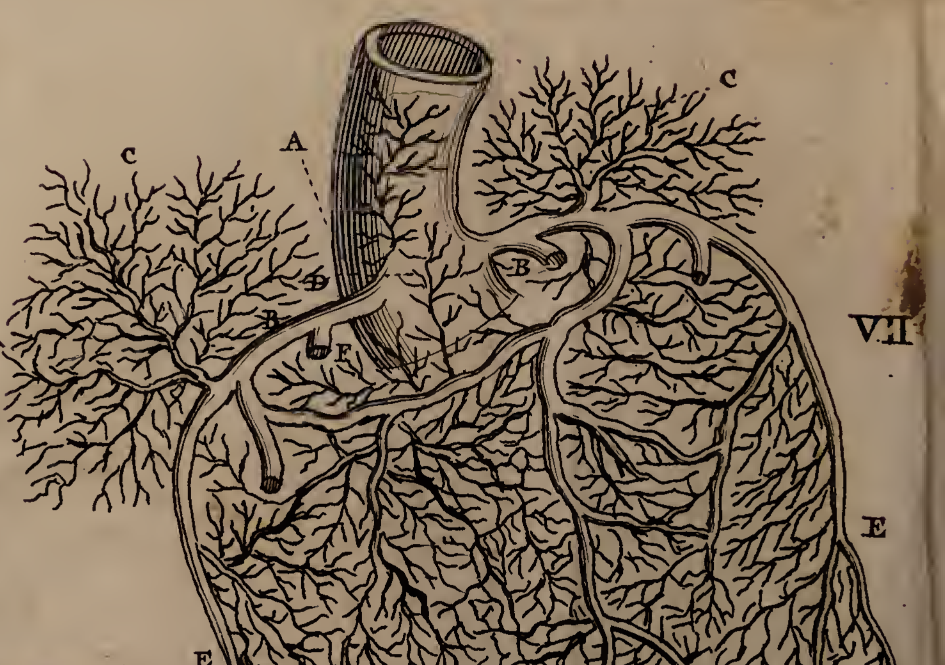

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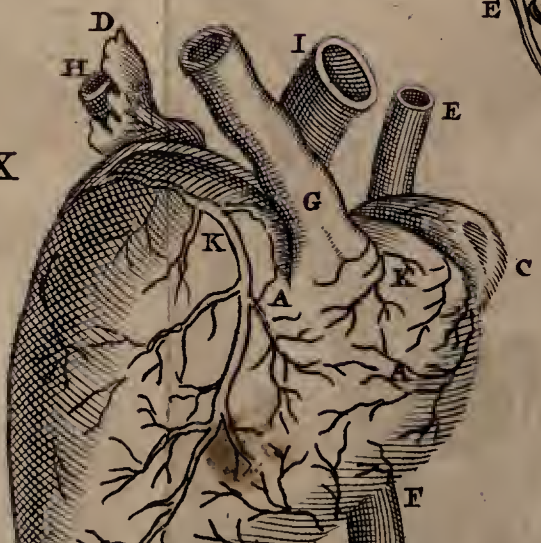

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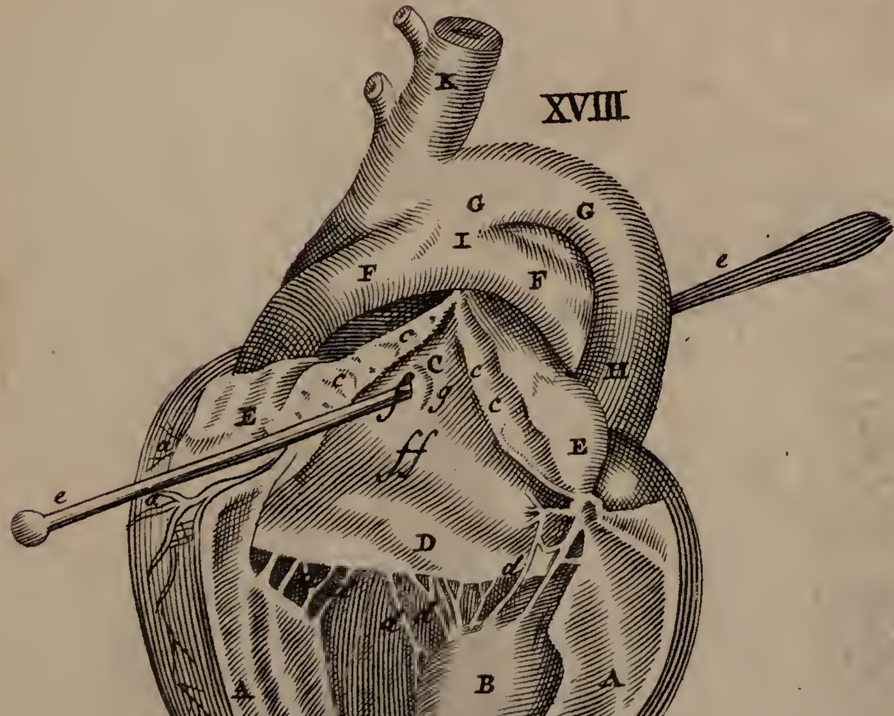

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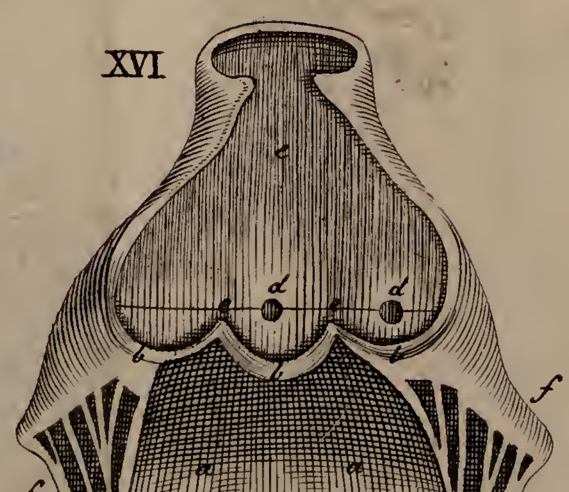

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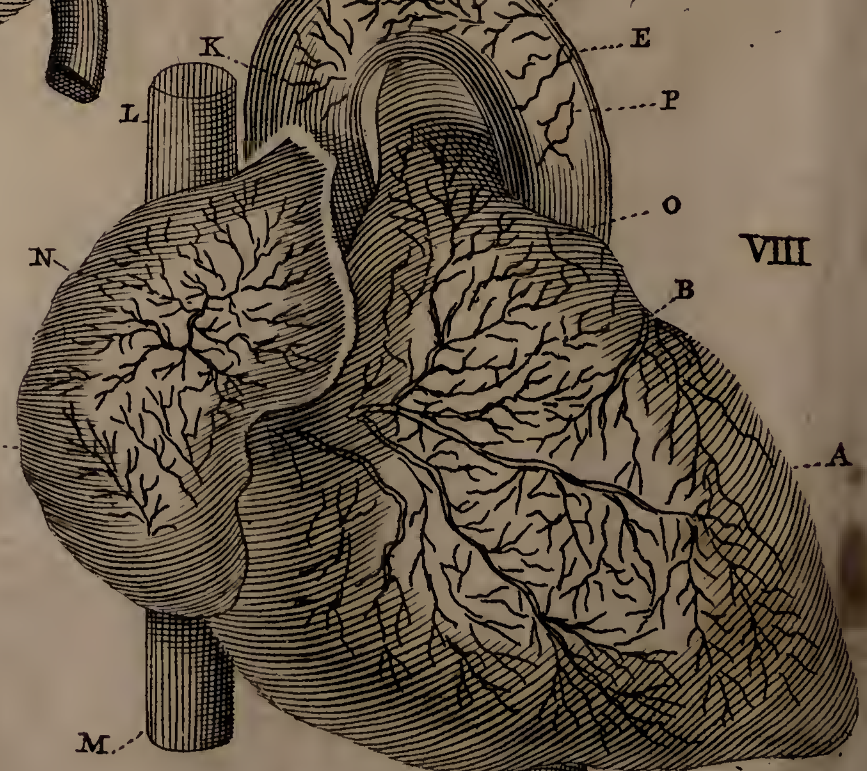


PLATE IX.

Fig. I.	SHews one whole Lobe of the Lungs, with the Lympheducts on its Superficies.
A.	The Orifice of the *Trachea* cut off.
B.	The Orifice of the ſubjacent *Pneumonic* Artery.
C.	The Orifice of the *Pneumonic* Vein.
D. D. D.	The Lympheducts diſperſed through the Surface of this Lobe.
Fig. II.	Exhibits a View of the Ramifications of the *Aſpera Arteria*, injected with a Liquor diſtending the ſmall *Lobules*, drawn from the Life.
A.	The Trunk of the *Trachea* cut off.
B. B.	Its inner Part laid open.
a. a. a.	The Holes leading into the Branches.
b. b. b.	The ſtrait muſcular Fibres within.
C.	The ſmaller End of this Trunk entire, that the annular Cartilages may be ſeen.
D. D, *&c.*	The *Tracheal* Branches going off the Trunk.
E. E.	Two Branches ſlit, or laid open, that the Holes and ſtrait Fibres may be ſeen.
F. F.	Some Branches cut off that the others might have Room to extend themſelves.
G. G. *&c.*	The *Lobules* hanging like Grapes on the *Bronchia*, or *Tracheal* Branches.
H. H. *&c.*	The Sanguiferous Veſſels creeping through the Superficies of thoſe *Lobules*.
Fig. III.	Expreſſes a Piece of Pulmonary *Lobe* blown up to ſhew the *Lobules* as they lie in the Subſtance of the Lungs.
A.	A Piece of a *Tracheal* Branch.
B. B. B.	The *Lobules* growing thereto.
c. c. c. c.	The Blood Veſſels creeping through them.
d. d. d. d.	The membranous Interſtices of the *Lobules*.
e. e. e. e.	The Blood Veſſels creeping through the ſame.
Fig. IV.	Repreſents the Divarication of a *Tracheal* Branch in the *Lobules*, and its minute Ramifications into the Tubes and Orbicular Bladders.
A.	The Stem of a *Tracheal* Branch.

b. b. The leſſer Twigs proceeding from that Stem.
c. c. c. c. The very ſmall Globules or Bladders in Cluſters, into which the *Tracheal* Twigs enter.
d. d. The Sanguiferous Veſſels which nouriſh the *Lobule.*

Fig. V. Is the View of a *Tracheal* Branch attended with its proper Veſſels.
A. The Branch of the *Trachea.*
B. The *Vena Arterioſa*, or *Pulmonary* Artery.
C. The *Arteria Venoſa*, or *Pulmonary* Vein.
D. A Nerve from the *Par Vagum*, creeping along the *Tracheal* Branch.
E. The Inoſculations of the Blood Veſſels.

Fig. VI. Exhibits a View of the natural Situation of the Heart in the Body, and the Egreſs of certain Veſſels.
A. The Heart included in the *Pericardium.*
B. B. The Lungs.
C. C. The Nervous Part of the Diaphragm.
D. D. D. The Carnous Part thereof.
E. The aſcending Trunk of the *Vena Cava* cut off.
F. The deſcending Trunk thereof.
G. The *Aorta* ariſing from the Heart.
H. H. Its two *Carotidal* Branches.
I. The *Mucronated* Point of the Heart.
K. K. Nerves of the 6th Pair proceeding to the Heart.
L. The Left Auricle.
M. The Right Auricle.
N. The Veſſels of the *Pericardium.*
O. The *Cartilago Scutiformis*, or *Thyroides.*
P. The firſt Pair of Muſcles of the *Larynx.*
Q. The *Os Hyoides in ſitu.*
R. The *Aſpera Arteria*, or Wind-pipe.
S. The Axillary Artery, near the beginning of which the Right Recurrent Nerve ariſeth.

Fig. VII. Shews the Blood Veſſels which are ſpread through and nouriſh the Subſtance of the Heart and Auricles.

A. The Root of the *Aorta*, out of which ſpring
B. B. The Coronary Arteries on each Side.
C. C. The Arteries running through the Auricles.
D. The little Branches ſpringing from the *Coronary*, and diſperſed through the Coats of the Root of the *Aorta*.
E. E. E. Numerous Sprigs of Arteries ſpread through the Subſtance of the Heart.
F. F. F. The Trunks of thoſe *Coronaries* cut off, which are deſign'd for the other Side of the Heart.
Fig. VIII. A. The Heart of a Boy about ten Years old.
B. B. The Arteries ſpread through its Subſtance.
C. The Right Auricle.
D. The Trunk of the *Aorta* ariſing out of the Left Ventricle of the Heart.
E. The deſcending Trunk of the *Aorta*.
F. The Right *Subclavian* Artery.
G. The Left *Subclavian*.
H. H. The two *Carotide* Arteries.
I. The Left *Cervical* Artery.
K. Little Branches of Arteries ſupplying Blood to the Coats of the Root of the *Aorta*.
L. The aſcending Trunk.
Fig. IX. Is another View of the Heart, *&c.*
A. A. The Baſis of the Heart.
B. Its *Mucro*, or Point.
C. Its Right Auricle.
D. Its Left Auricle.
E. The ſuperior Trunk of the *Vena Cava*.
F. The inferior Trunk thereof.
G. The *Pulmonary* Artery.
H. The *Pulmonary* Vein.
I. The *Aorta*, or Great Artery.
K. K. The *Coronary* Veins and Arteries.
Fig. X. Sheweth, that on the Inſide A A of the *Vena Cava* E F, there is (in Man) provided a Protuberance B, compoſed of the ſubjacent Fat;

againſt which the Blood deſcending from E, and the aſcending Current from F, doth ſtrike, and thereby each Courſe is directed into the Right Auricle C, and prevented from ruſhing upon, and confounding each other; and conſequently from deſtroying the Circulation, as it muſt otherwiſe have done in Man's *erect Poſture.*

Fig. XI. Sheweth the outmoſt and ſtrait Fibres of the Heart, deſtin'd for the Contraction of the Right Ventricle.

Fig. XII. Shews the Courſe of the Oblique Muſcles of the Heart A and B, which run from Top to Bottom; and another Order of Oblique Muſcles C and D, croſſing the former; by means whereof, the Ventricles of the Heart muſt neceſſarily become narrower in their Contractions.

Fig. XIII. The ſurpriſing Form of Fibres A B, which running on all Sides from Top to Bottom, encompaſs the Heart at the Point C, and by their Contraction ſhorten and draw up the Left Ventricle.

Fig. XIV. Is a Repreſentation of the Form of the laſt mentioned Fibres on the Point of the Heart.

Fig. XV. A Row of Fibres A B C, which aſſiſt the lateral Contractions of the forementioned Oblique Fibres, and perform this Function by encompaſſing the Heart croſs-ways, and contracting the ſame.

Fig. XVI. Shews the *Semilunar Valves* at the Riſe of the *Aorta* out of the Left Ventricle.

a. a. Part of the Left Ventricle laid open.

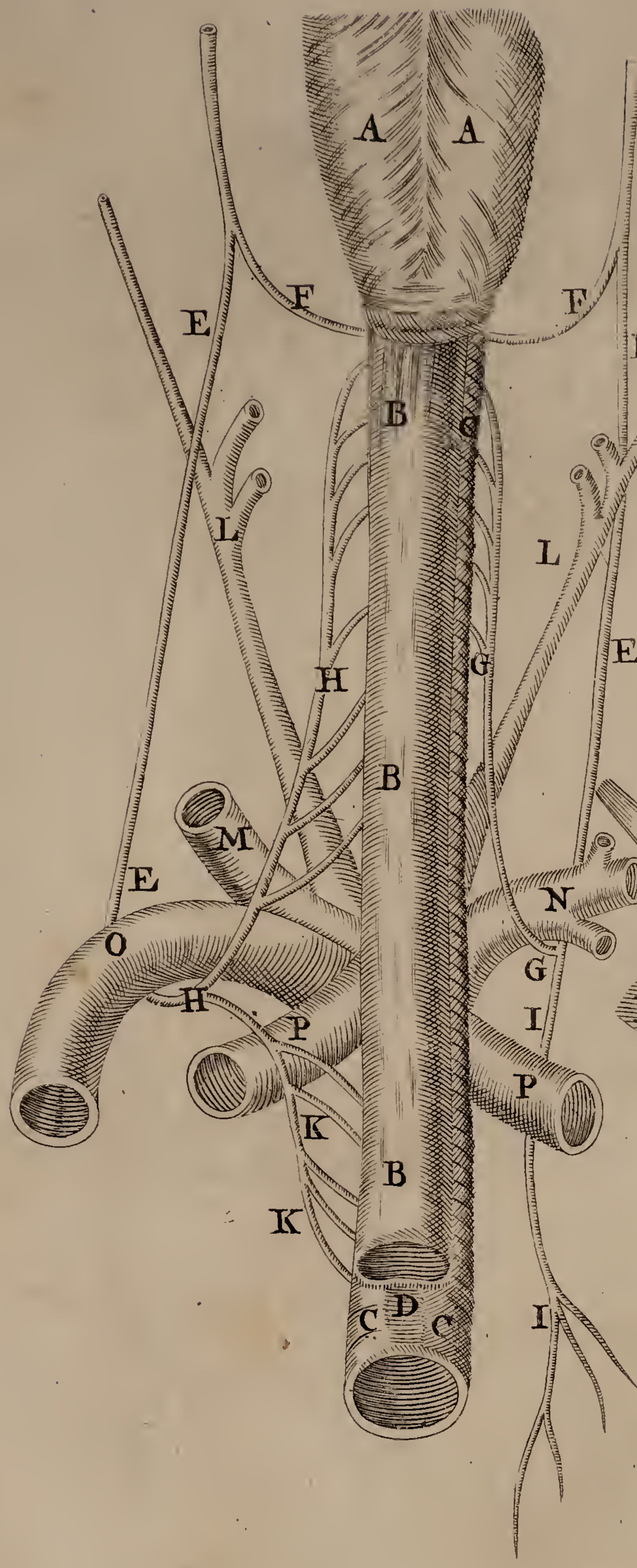
b. b. b. Three *Semilunar Valves*, which yield an Exit to the Blood going out, but are ſhut by the refluent Stream.

c. The Trunk of the *Aorta* laid open.

d. d.	The Orifices of two *Coronary* Arteries.
e. e.	The Root of the *Aorta* where it is united to the Tendon of the Heart.
f. f.	The *Mitral Valves* turn'd aſide that the *Semilunar Valves* might appear.
g. g.	The Ends by which they are faſten'd to the Heart in their natural State.
Fig. XVII.	A Trunk of the *Aorta* cut off at the Root.
B. B.	The two *Coronary* Arteries.
C. C. C.	The three *Semilunar Valves* cloſed to hinder the Recourſe of the Blood out of the *Aorta* into the Ventricle.
Fig. XVIII.	Shews the Left Ventricle and Auricle of the Heart diſſected.
A. A.	An Inciſion of the Heart thro' the Left Ventricle.
B. B.	An exact View of the Ventricle.
C.	The Exit of the *Style*, paſs'd thro' the *Anaſtomoſis*, from the Right to the Left Ventricle.
D.	A *Valve* placed by the Mouth of the *Aorta*.
E. E.	The Left Auricle diſſected.
F. F.	The *Arteria Venoſa* paſſing out of the Right Ventricle.
G. G.	The aſcending Part of the *Aorta*.
H.	The deſcending Part near the Spine.
I.	The Connection of the *Arteria Venoſa* and *Aorta*.
K.	The Trunk of the *Aorta* aſcending to the Arms and Throat.
a. a.	Small Twigs of the *Coronary* Veins.
b. b.	The *Coronary* Artery diſſected.
c. c. c.	An Inciſion of the Left Auricle quite to the *Venous Artery*.
d. d. d. d.	The ſmall carnous Fibres, or Strings in the Ventricle, connecting the upper to the lower Parts.
e. e.	The *Style* mention'd above at C.
f, f. f.	Certain ſmall Holes, thro' which ſome ſuppoſe the Blood flows from the Right to the Left Ventricle.
g.	A ſmall *Valve* placed at the *Anaſtomoſis* f.

Plate X.

Fig: I.



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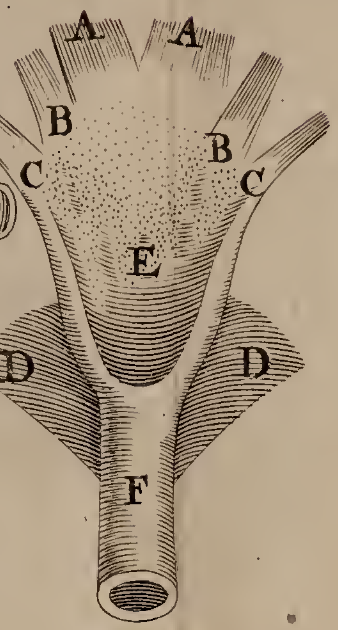

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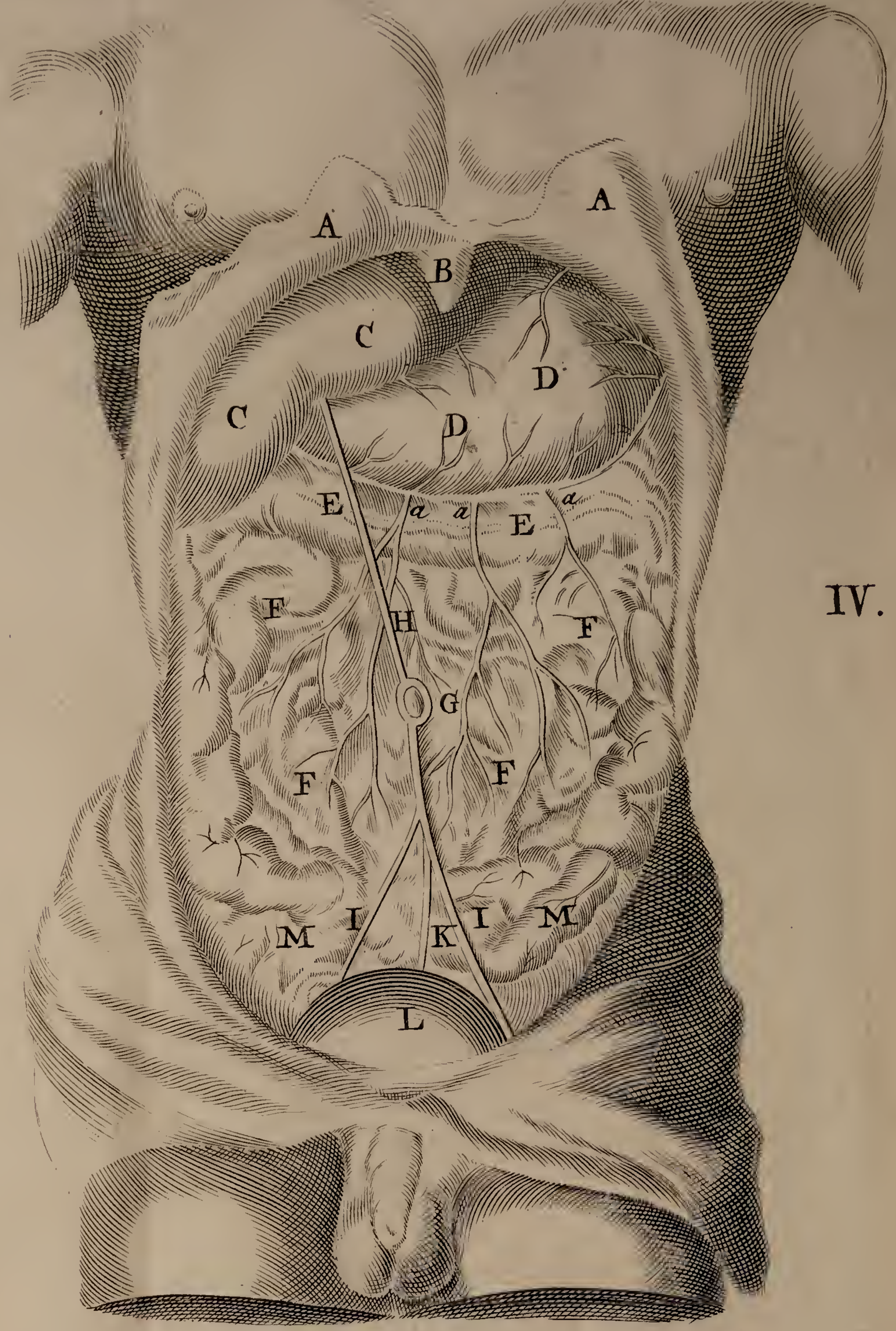

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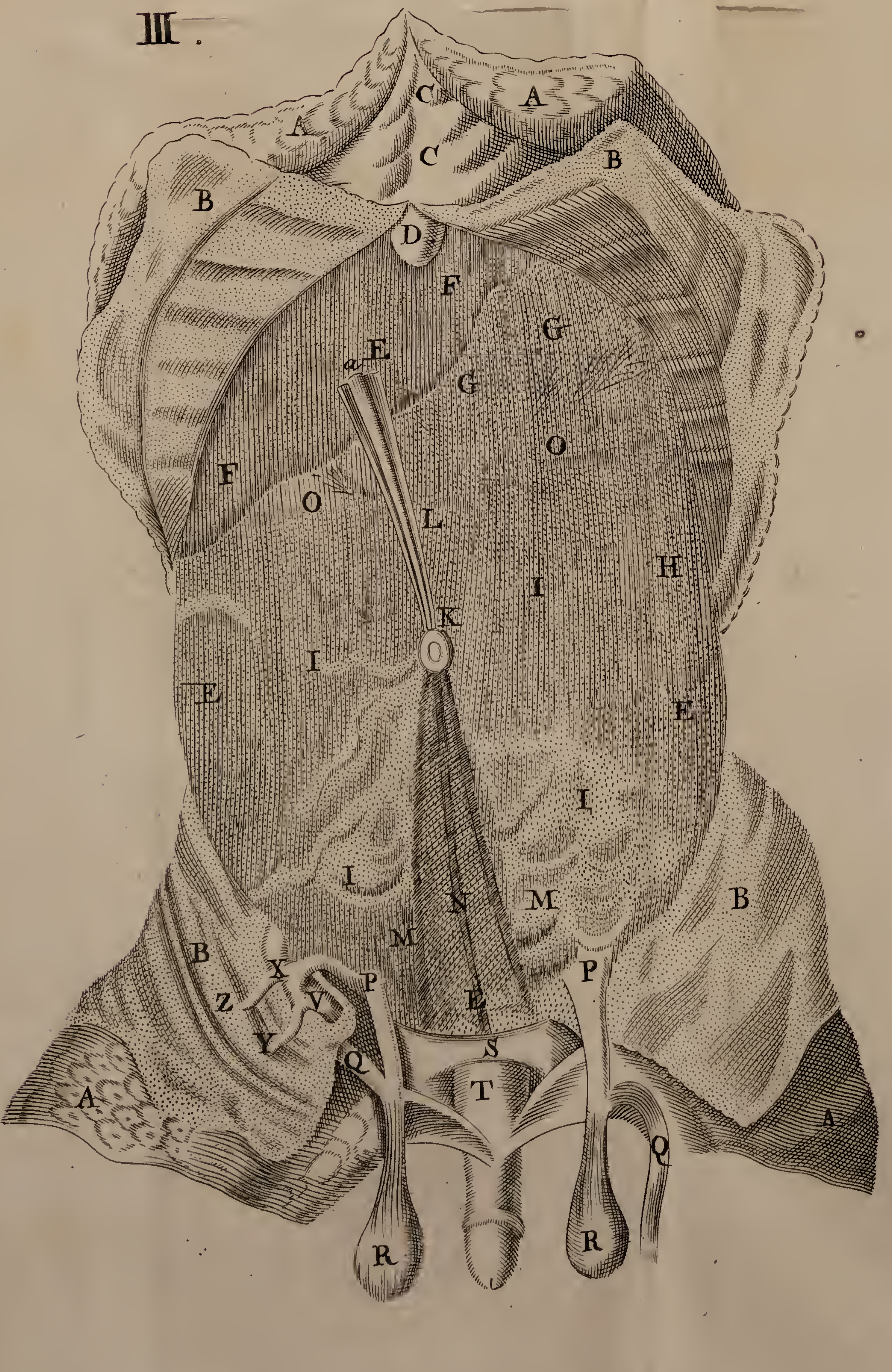

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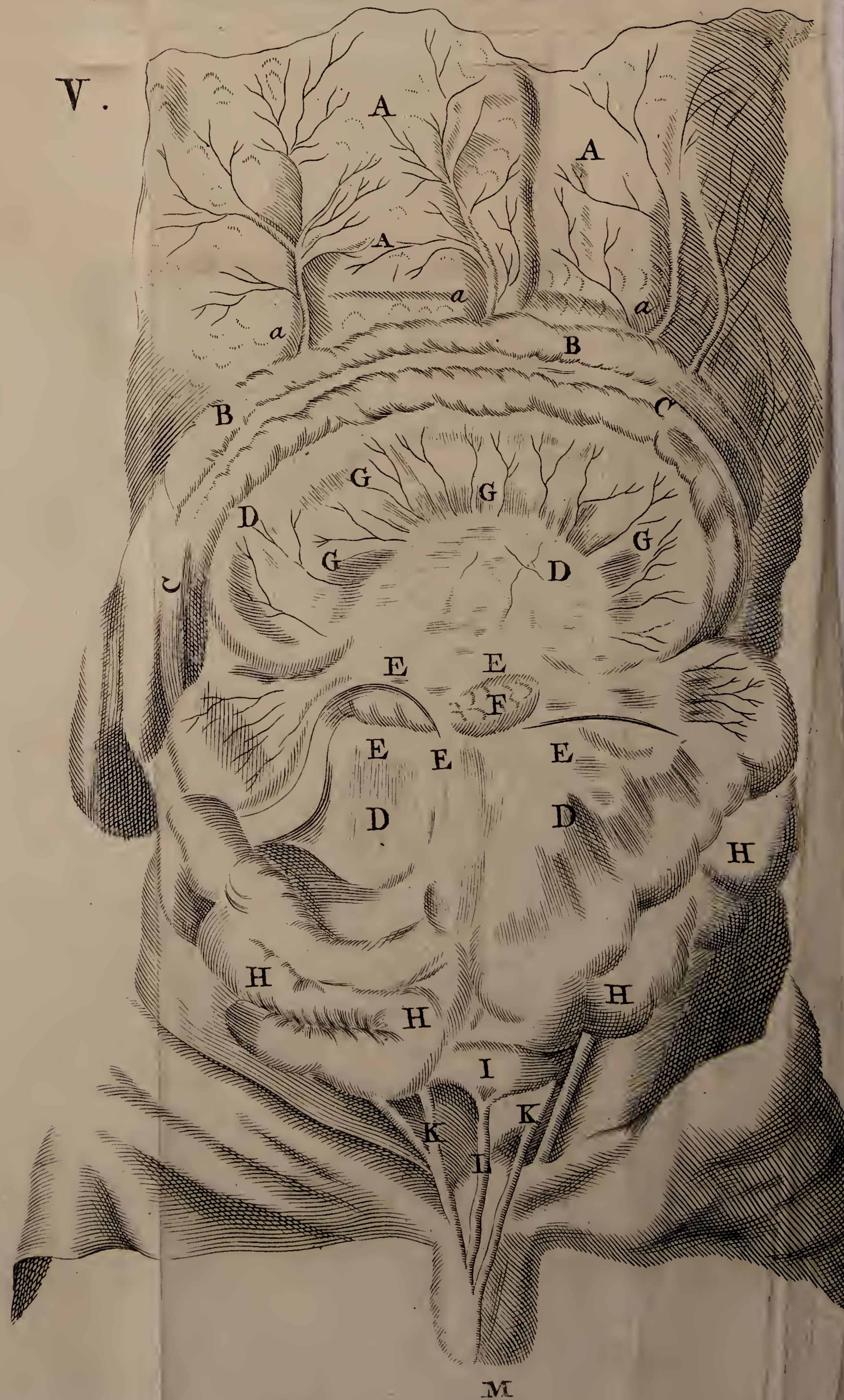


Fig. I.	Exhibits a View of the *Oeſophagus*, *Trachea*, Recurrent Nerves, and other Veſſels in the Neck.
A. A.	The Muſcle conſtringing the *Oeſophagus*.
B. B. B.	The *Oeſophagus*, or Gullet.
C. C. C.	The *Trachea*, or Wind-pipe, lying under the Gullet.
D.	The Membrane between the *Trachea* and *Oeſophagus*.
E. E. E. E.	Nerves of the ſixth Pair.
F. F.	Nerves of the Tongue.
G. G.	The Right Recurrent Nerve bending round the Humeral Artery.
H. H.	The Left Recurrent Nerve about the *Aorta*.
I. I.	A Nerve going to the Stomach and *Diaphragm*.
K. K.	A Nerve deſcending to the *Diaphragm*.
L. L.	The Jugular Arteries.
M.	The Left Humeral Artery.
N.	The ſame on the Right Side.
O.	The *Aorta*.
P. P.	Trunks of Arteries deſcending to the Lungs.
Fig. II.	Is the Upper-part of the *Oeſophagus* with its Muſcles.
A. A.	The *Muſculi Cephalopharyngæi*.
B. B.	The *Muſculi Sphenopharyngæi*.
C. C.	The *Muſculi Stylopharyngæi*.
D. D.	The *Sphincter Gulæ*, or *Oeſophagæus* drawn aſide.
E.	The internal Face of the *Oeſophagus*.
F.	The Part or Pipe deſcending to the Stomach.
Fig. III.	Exhibits a View of the *Peritonæum*, its Proceſſes, *&c.*
A. A. A. A.	The four common Integuments of the Body diſſected and laid open.
B. B. B. B.	The Muſcles of the *Abdomen* in like manner diſſected.
C. C.	The *Os Sternum*.
D.	The *Cartilago Enſiformis*.

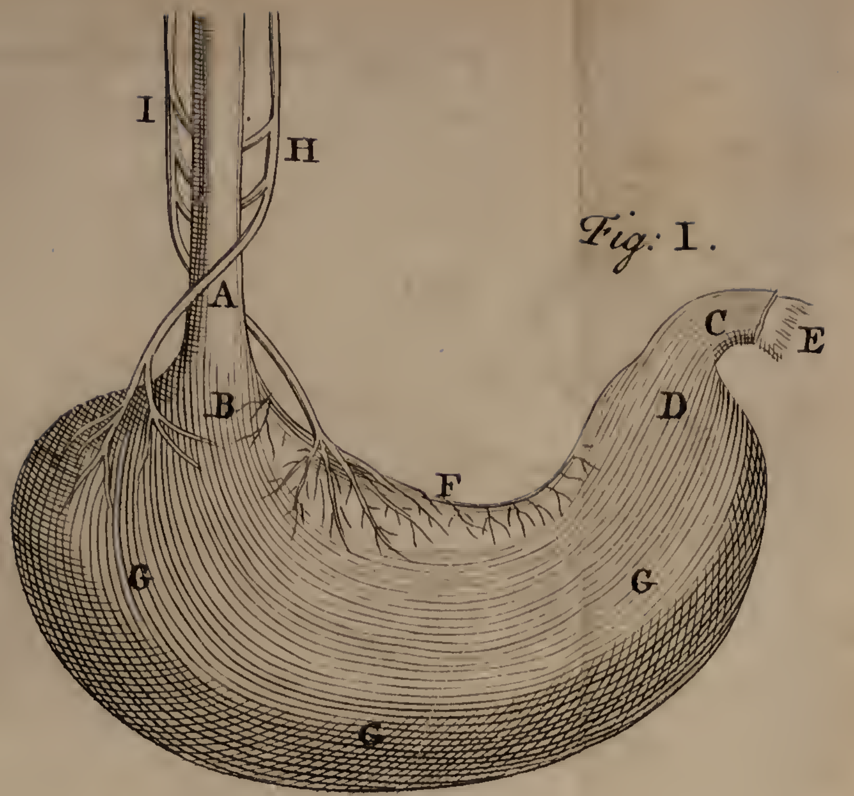
E. E. E. E. The

E. E. E. E.	The whole Face of the *Peritonæum* covering the *Abdomen*, through which the ſubjacent *Viſcera* faintly appear.
F. F.	The Adumbration of the Liver through the *Peritonæum.*
G. G.	The obſcure Appearance of the Stomach.
H.	The faint Form of the Spleen in the Left Side.
I. I. I. I.	The anfractuary Circumvolutions of the Guts obſcurely appearing through this Membrane.
K.	The *Umbilicus.*
L.	The umbilical Vein lying in a Chanel *a* of the *Peritonæum*, of which it is here clear'd.
M. M.	Two umbilical Arteries.
N.	The *Urachus.*
O. O.	Veſſels diſtributed to the Stomach and *Omentum.*
P. P.	The Proceſſes of the *Peritonæum*, containing the *Vaſa Præparantia.*
Q. Q.	The Cremaſters of the *Teſtes.*
R. R.	The *Teſtes* diveſted of the *Scrotum.*
S.	The *Os Pubis.*
T.	The *Penis.*
V.	The Riſe of the *Epigaſtric* Vein.
X.	The *Epigaſtric* Artery.
Y.	A Branch from the *Epigaſtric* Vein.
Z.	A Branch from the *Epigaſtric* Artery.
Fig. IV.	Expreſſes the Situation of the *Inteſtines*, *Omentum*, and *Umbilical Veſſels* to the Life.
A. A.	The Integuments of the *Abdomen* diſſected and turned aſide, that the internal Parts might come to view.
B.	The *Cartilago Enſiformis.*
C. C.	The gibbous Part of the Liver.
D. D.	The Stomach.
E. E.	Part of the *Colon* under the Stomach.
F. F.	The ſuperior Membrane of the *Omentum* annex'd to the Bottom of the Stomach.
G.	The *Umbilicus.*

H. H.	The *Umbilical* Vein.
I. I.	The two *Umbilical* Arteries.
K.	The *Urachus.*
L.	The Bladder.
M. M.	The Inteſtines.
a. a. a.	The Veſſels diſperſed over the Stomach and *Omentum* or Caul.
Fig. V.	Shews the Site of the *Meſentery*, *Inteſtines*, *Glands*, &c. under the *Omentum.*
A. A. A.	The inferior Membrane of the *Omentum*, whence the *Colon* is ſuſpended.
B. B.	Part of the *Colon.*
C. C.	The *Ligamentum Coli.*
D. D. D. D.	The *Meſentery.*
E. E. E.	The leſſer Glands of the *Meſentery.*
F.	The great Gland call'd *Pancreas Aſellii.*
G. G. G.	The Veſſels of the *Meſentery.*
H. H.	The *Inteſtines* ſmall and large.
I.	The Bottom of the Bladder.
K. K.	The *Umbilical* Arteries.
L.	The *Urachus.*
M.	The Navel cut off and hanging down.
a. a. a.	The *Epiploic* Veſſels.

Plate XI.

Fig: I.



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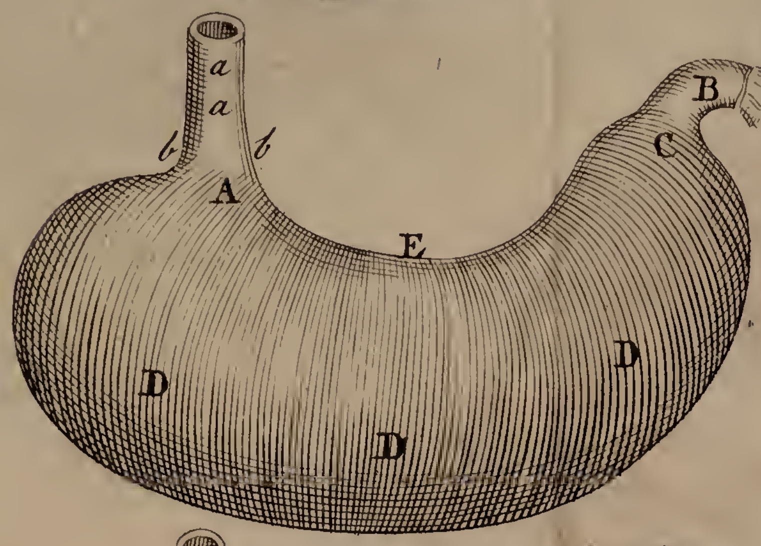

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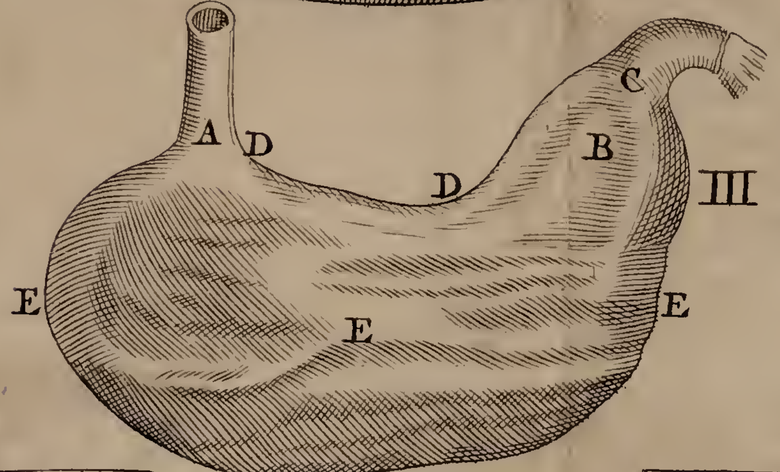

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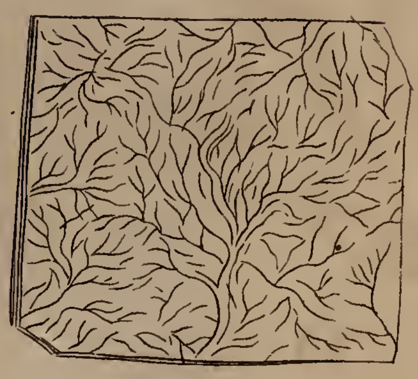

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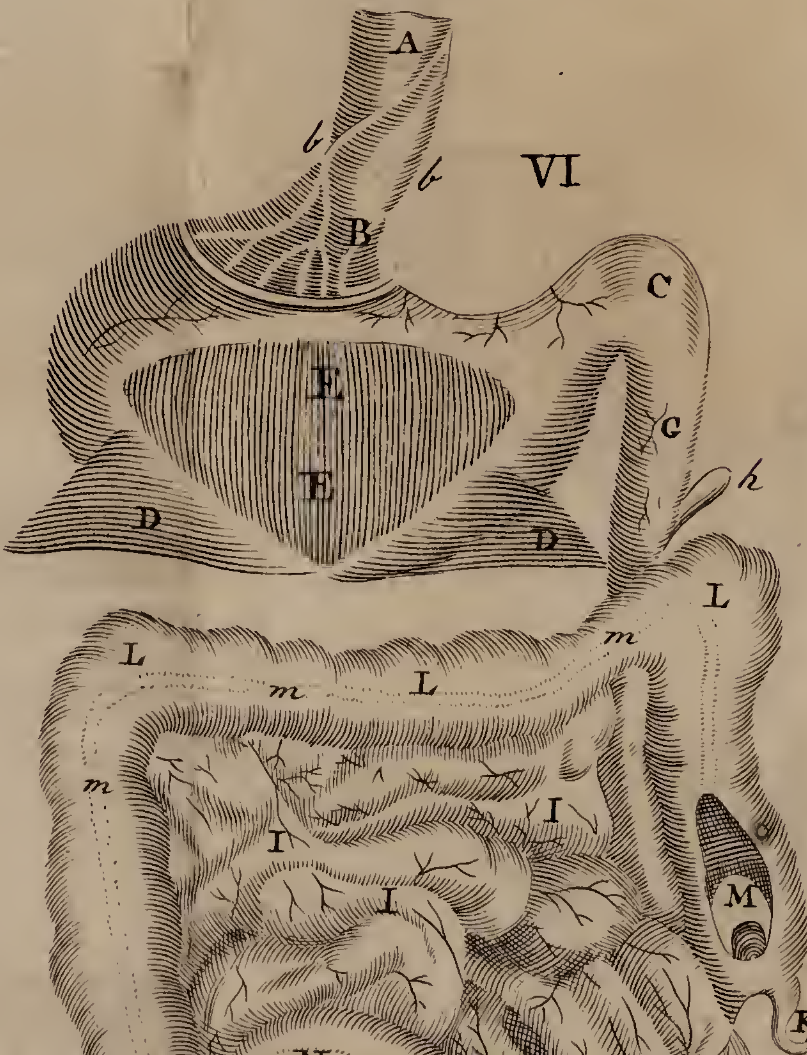

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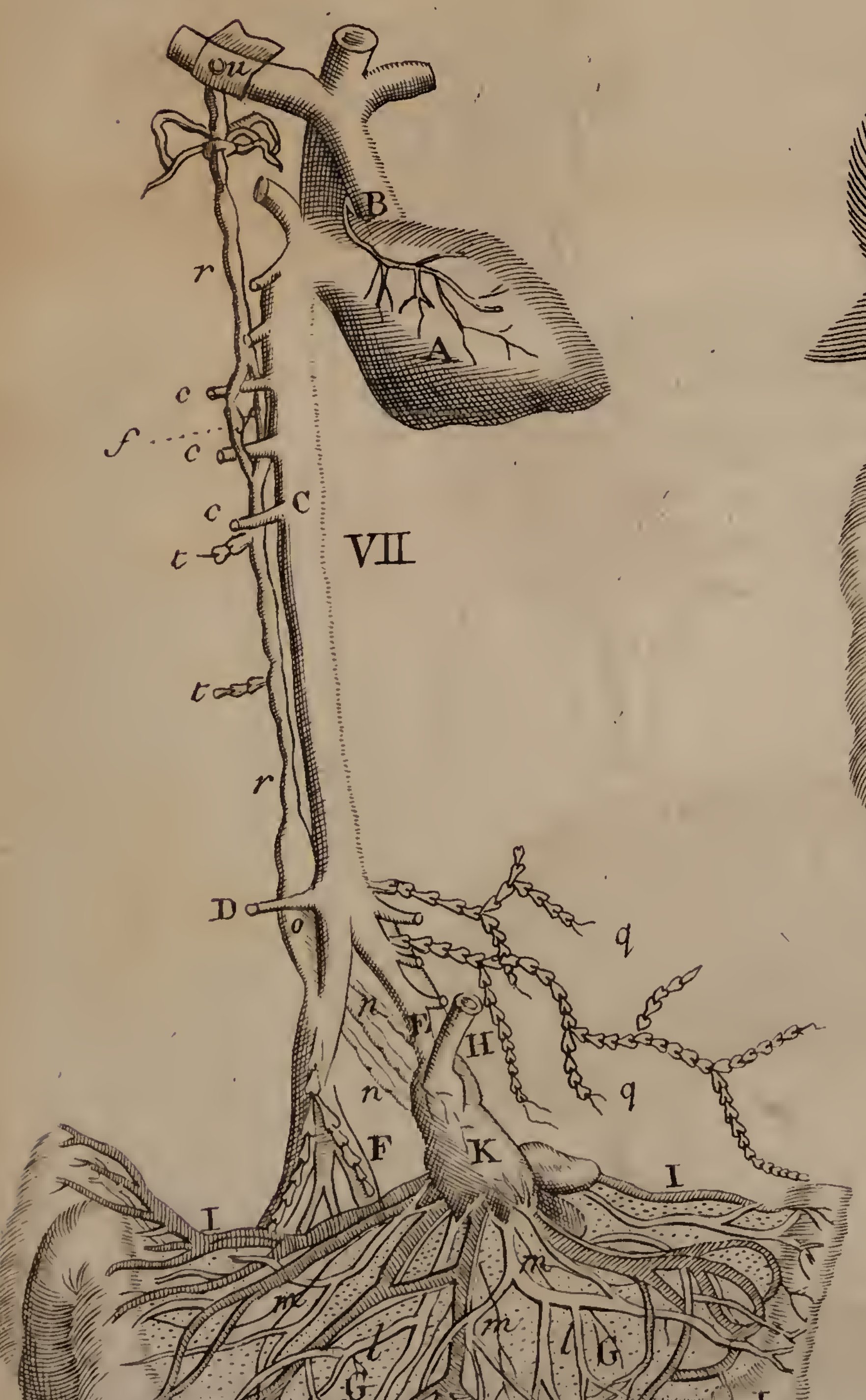

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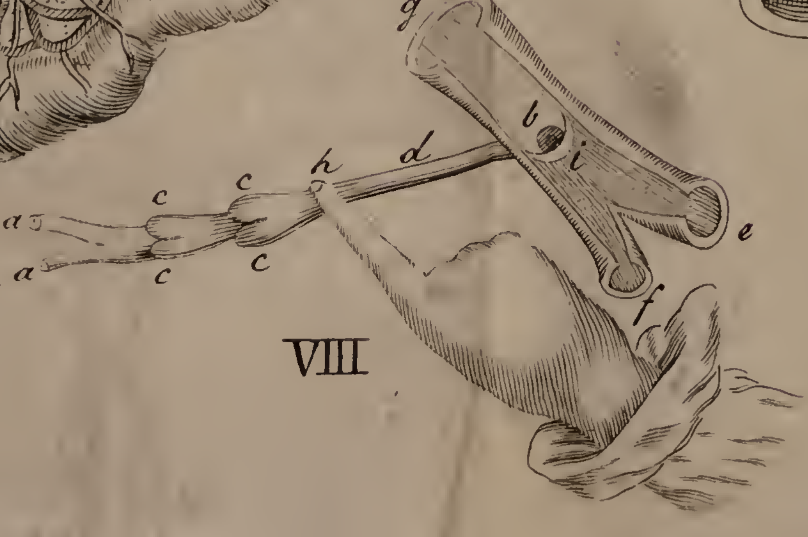

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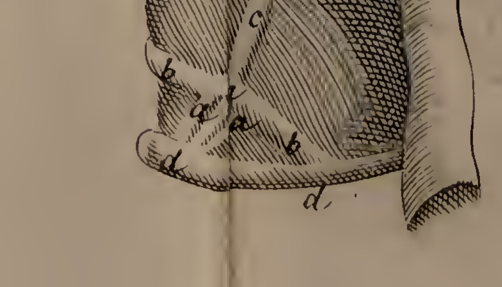

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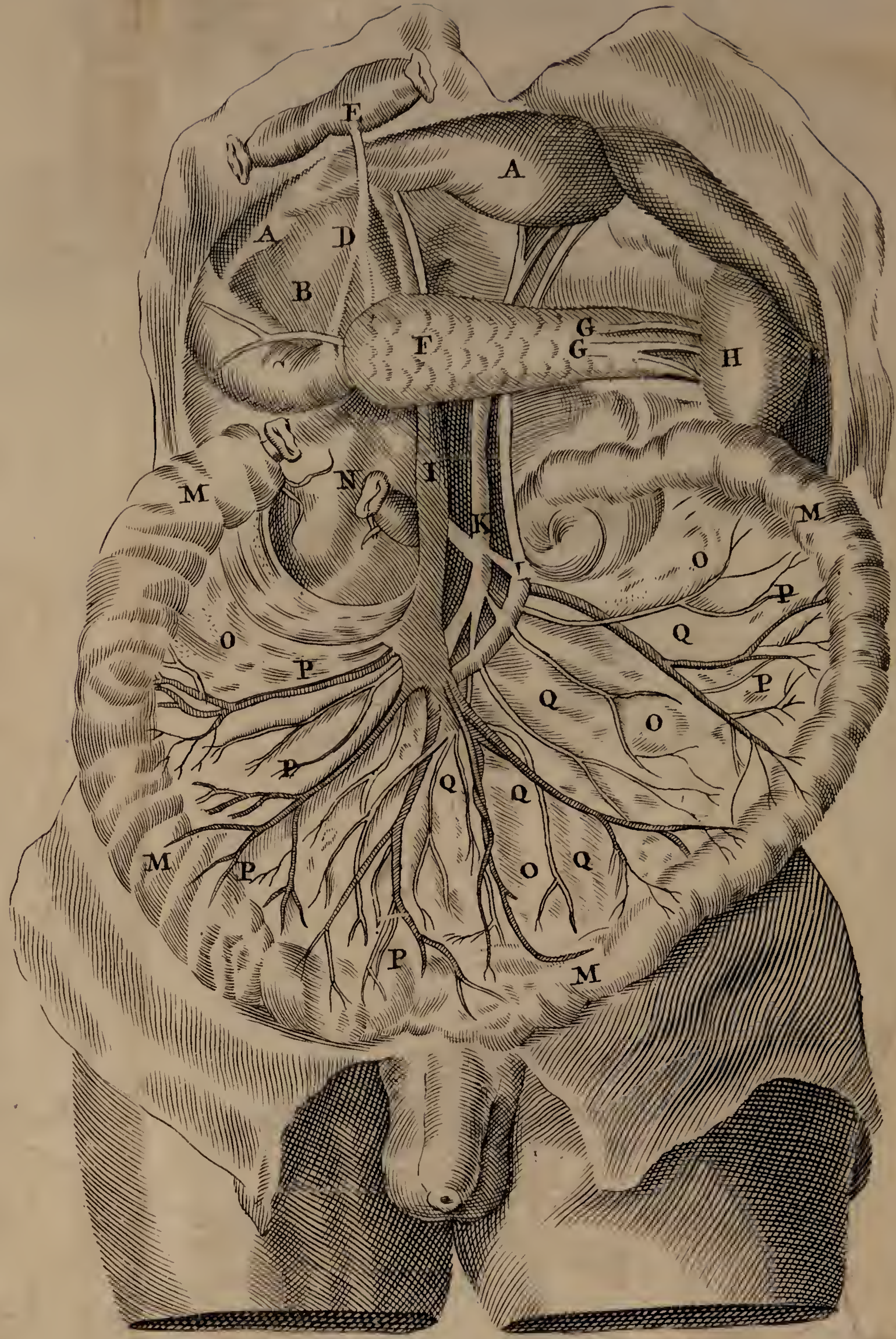

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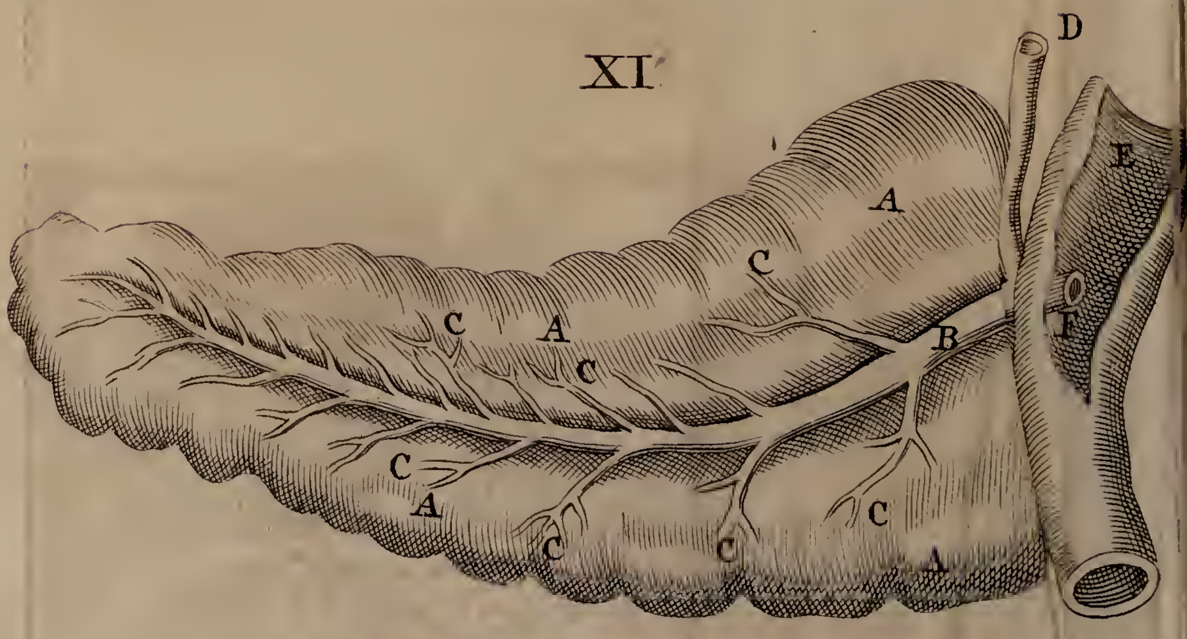

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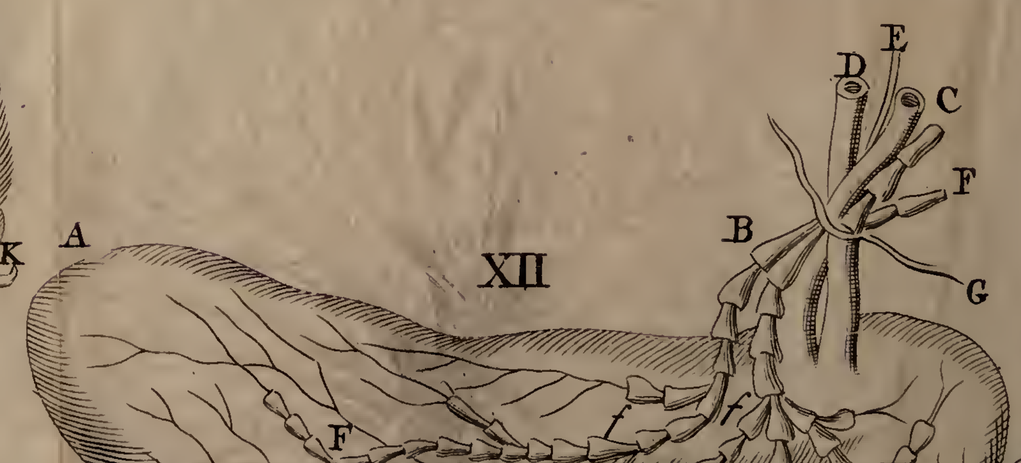

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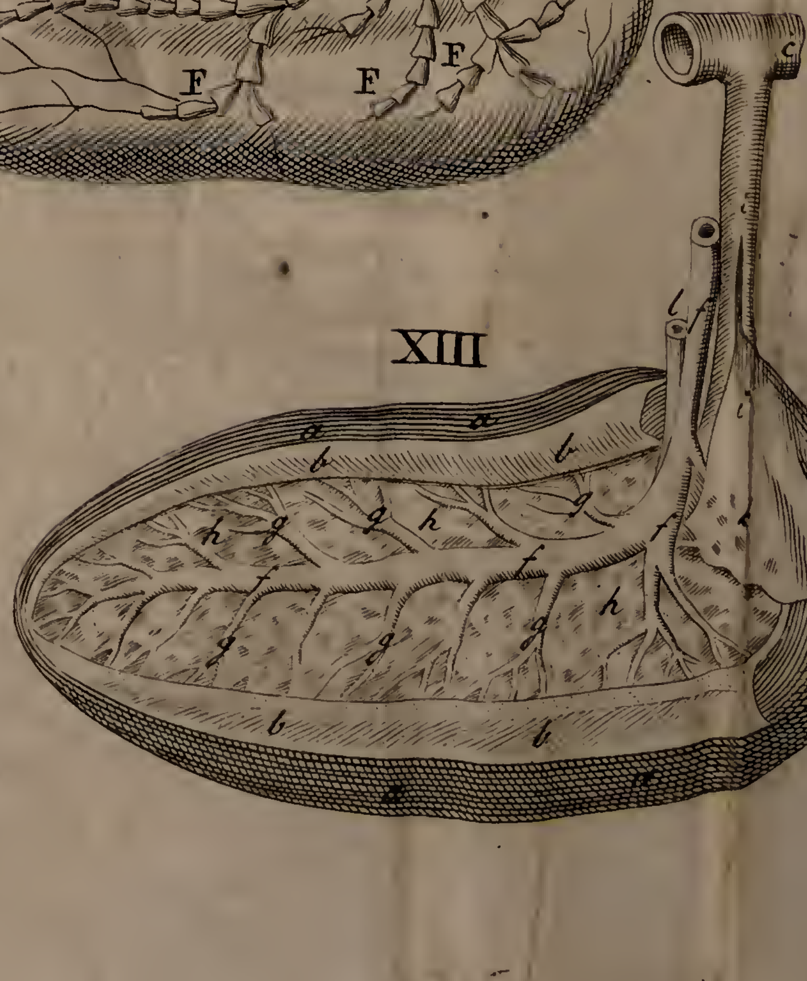


PLATE XI.

Fig. I. IS a View of the Stomach and its Parts.

A. Part of the *Oeſophagus.*

B. The Orifice of the Stomach.

C. The other Orifice, call'd *Pylorus.*

D. The *Antrum* of the *Pylorus.*

E. A Portion of the *Duodenum* continued from the *Pylorus.*

F. The Sanguiferous Veſſels on the Upper-part of the Stomach.

G. G. The nervous longitudinal Fibres of the exterior Coat of the Stomach.

H. I. Nerves from the *Par Vagum*, plentifully ſpent on the Mouth of the Stomach.

Fig. II. Is a View of the Middle Coat of the Stomach, being diveſted of its exterior nervous Coat.

a. a. Part of the *Oeſophagus.*

b. b. The circular carnous Fibres which ſtraiten and contract

A. The Mouth of the Stomach.

B. The *Pylorus.*

C. The Orifice and *Antrum* of the *Pylorus*, which are ſtraiten'd and ſhut by the circular Fibres.

D. D. D. The circular Fibres encompaſſing the Stomach depth-ways.

E. The Top of the Stomach where the Fibres ariſe, and towards which they contract it.

Fig. III. Is a View of the Stomach turn'd Inſide outward, that the downy Subſtance, the Folds and Wrinkles may appear.

A. The Mouth, or Left Orifice.

B. The *Antrum* of the *Pylorus*, where the Coats are thicker.

C. The Right Orifice, or *Pylorus.*

D. D. The Top of the Stomach.

E. E. E. E. The Sides, End, and Bottom, expreſſing the downy Cruſt, Wrinkles, and Furrows therein to the Life.

Fig. IV. Is a Piece of the inmoſt or nervous Coat, in which the downy Part being removed, its concave Superficies appears with a thick and fine Branchery of Veſſels.

Fig. V. Shews a Piece of the downy Coat, in which appear numerous Glandules on that Superficies, adhering to the nervous Coat.

Fig. VI. Is a Repreſentation of the Diſpoſition and Connection of the Stomach and Inteſtines expreſs'd to the Life.

A. The *Oeſophagus*, with the Nerves *b. b.*
B. The Mouth of the Stomach.
C. The *Pylorus.*
D. D. The exterior Coat laid open to ſhew
E. E. The Middle Coat of circular Fibres.
G. A Portion of the *Duodenum.*
h. The *Ductus Choledochus*, or Bile-Duct.
I. I. I. I. The *Inteſtines*, as well the *Jejunum* as *Ileum*, with the Veſſels creeping through them.
K. The Appendage, call'd the *Cæcum* or Blind Gut.
L.L.L.L. The *Colon.*
M. The *Valve* open at the Beginning of the *Colon.*
m. m. m. The *Ligamentum Coli*, which makes it full of Cells.
N. N. The *Inteſtinum Rectum*, or ſtrait Gut.
O. The *Sphincter Ani.*
P. P. The Muſcles call'd *Levatores Ani.*

Fig. VII. Shews the *Venæ Lacteæ*, *Ductus Chyliferus*, *Vaſa Lymphatica*, and Courſe of the *Chyle* to the Heart in a Dog.

A. The Heart.
B. The *Vena Cava.*
C. The *Aorta* with its intercoſtal Branches *c. c. c.*
D. An Emulgent Artery.
E. The Left and
F. The Right *Iliac* Artery.
G. G. The *Meſentery.*

H. The Duct of the Gland K.
I. I. The Blood Veſſels diſperſed thro' the *Meſentery.*
K. A great Gland which receives the Contents of
I. I. The *Venæ Lacteæ,* which bring the *Chyle* from
L. L. The *Inteſtines* annected to the *Meſentery.*
m. m. m. The Nerves of the *Meſentery.*
n. n. Small Ducts which carry the *Chyle* to
O. The *Receptaculum Chyli.*
r. r. The *Ductus Chyliferus,* by which the *Chyle* aſcends to
u. The *Subclavian* Vein, and from thence to the Heart.

Note, The Veſſels *q q* and *t t* are the *Lymphæducts* which attend the *Lacteals*; which latter are not to be ſeen but when turgid with *Chyle* immediately after Concoction, and therefore not to be expected in human Bodies which are dead and cold before Diſſection.

Fig. VIII. Shews the *Semilunar Valve* placed at the Orifice of the *Ductus Chyliferus* in the *Vena Subclavia,* to prevent the recurrent Blood from deſcending therein.
a. b. The ſuperior Part of the *Ductus Chyliferus.*
b. Its Orifice in the *Subclavian.*
c. c. The common *Valves,* which are here render'd viſible by ſqueezing the *Chyle* back again upon them with the Finger *h.*
d. The Part by that means made empty.
e. The Jugular Vein, joining
f. g. The Left *Subclavian* Vein, laid open, to ſhew
i. The Poſition of the *Semilunar Valve,* placed at the Orifice of the *Duct,* which is ſhut by the recurrent Stream from *f* and *e,* and yet affords an eaſy Paſſage for the *Chyle* and *Lympha* to concur and mix therewith.

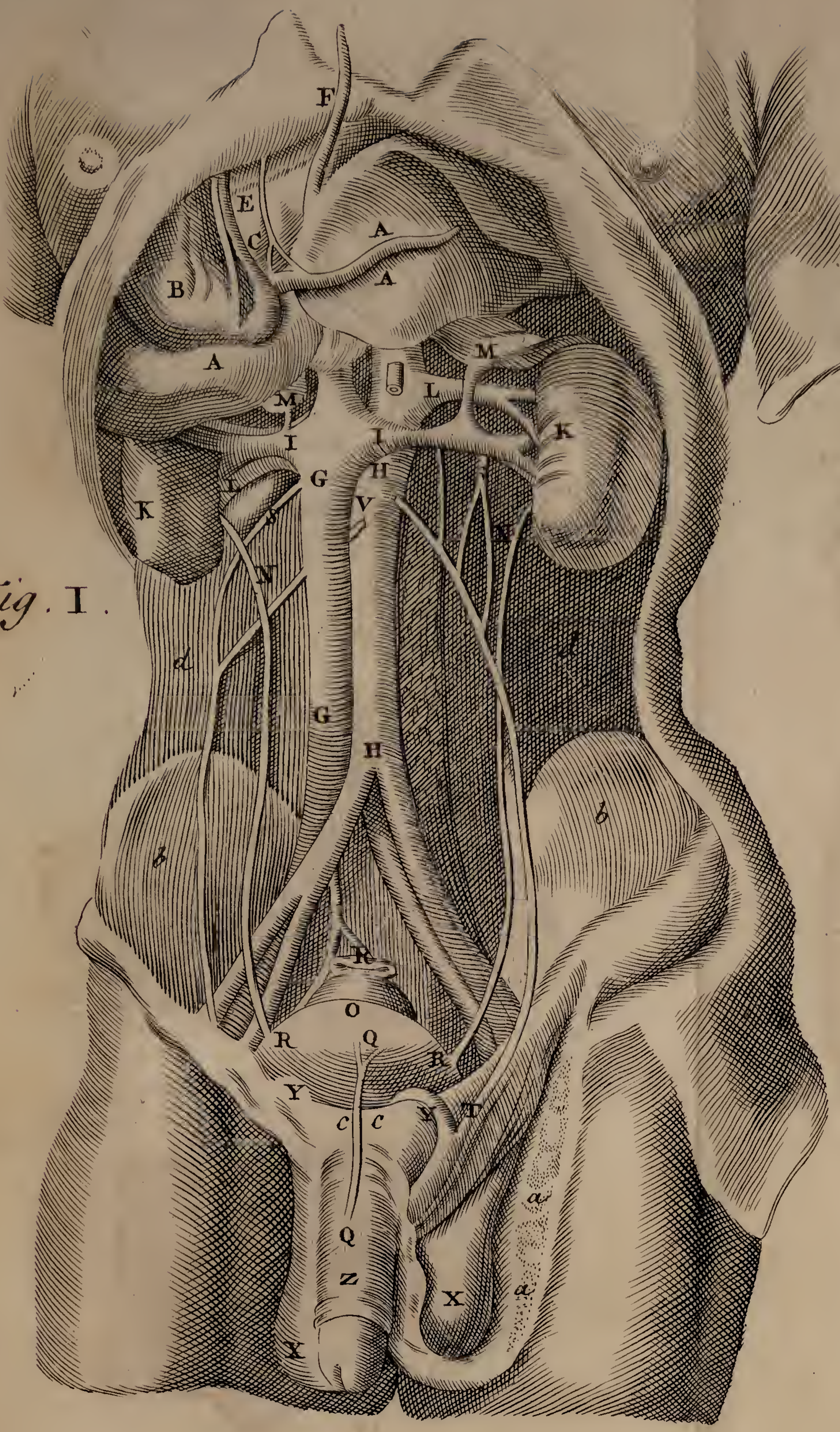
Fig. IX. Shews

Fig. IX.	Shews the Inſertion of the *Ductus Chyliferus* into the *Subclavian*, together with the Jugular Vein, in an human Body.
a. a. a.	A threefold Inſertion of the *Ductus Chyliferus* into the *Subclavian*, tho' ſometimes 'tis by one, and ſometimes by many Orifices.
b. b.	The *Subclavian* Vein.
c.	The *Jugular Vein* entering the *Subclavian* juſt over the Inſertion of the *Chyliferous Duct*, which makes the aforeſaid *Valve* more neceſſary here to inhibit the Entrance of the Blood into the ſaid *Duct*.
d. d.	The Left *Clavicle*, from under which the Branches of the Duct emerge to Sight in this Figure.
Fig. X.	Preſents a View of the Veſſels of the *Meſentery*, and ſome of the *Viſcera* of the *Abdomen*.
A. A.	The gibbous or convex Part of the Liver.
B.	The concave Part thereof.
C.	The *Gall-Bladder*.
D.	The *Meatus Bilarius*.
E.	A Portion of the *Duodenum*.
F.	The *Pancreas* in its natural Site.
G. G.	The *Splenic* Veſſels laid bare by ſlitting the *Pancreas*.
H.	The Spleen in the Left *Hypochondrium*.
I. I.	The *Meſenteric* Branch of the *Vena Porta*.
K.	The *Meſenteric* Artery.
L.	A Nerve of the ſixth Pair ſpent on the *Meſentery*.
M. M. *&c.*	The *Inteſtines* connected with the *Meſentery*.
N.	The Beginning of the *Jejunum*.
O.O.O.O.	The *Meſentery*.
P.P.P.P.	The Veins, Arteries, Nerves, and Lacteals of the *Meſentery*.
Q.Q.Q.Q.	The ſmall Glands diſperſed thro' the *Meſentery*.
Fig. XI.	Is a View of the *Pancreas*.
A.A.A.A.	The Parenchymous Subſtance of the *Pancreas* laid open.

B.	The Trunk of the *Ductus Pancreaticus.*
CCCCC.	The Branches thereof.
D.	The *Ductus Bilarius* joining the *Duct. Pancreat.*
E.	The *Duodenum* opened.
F.	The Orifice of Ducts diſcharging their Contents therein.
Fig. XII.	Repreſents the *Lymphatics* and Sanguiferous Veſſels of the Spleen tied.
A.	The Spleen of a Calf.
B.	The Place where the Veſſels are tied.
C.	The *Splenic* Vein.
D.	The *Splenic* Artery.
E.	The *Splenic* Nerves.
E. E. E.	The *Lymphatics* on the Superficies of the Spleen.
f. f. f.	The *Valves* of thoſe Veſſels preventing the Return of the *Lympha.*
G.	The Ligature.
Fig. XIII.	Is a View of an Ox's Spleen cut open, to ſhew the Courſe of the Veſſels.
A. A.	The proper Coat of the Spleen.
B. B.	The ſame Coat diſſected and turn'd back, to ſhew the Progreſs and *Plexus* of the Veſſels.
C.	A Portion of the *Vena Porta.*
D.	Its Left *Splenic* Branch.
E.	The ſame open'd near the Spleen, that the *Valve i* may appear.
F. F. *&c.*	A Portion of the *Splenic* Artery.
G. G. *&c.*	The Twigs which run off therefrom through the Subſtance of the Spleen.
H. H. *&c.*	Certain nervous Fibres wonderfully complicated, among which the Arterial Branchery is ſeen.
I.	The *Valve* in the *Splenic* Branch opening outward to the *Porta.*
K.	The little Holes which appear in the *Ramus Splenicus*, leading from the Subſtance of the Spleen.
L.	A Nerve running along the *Splenic* Artery.

Plate XII.

Fig. I.



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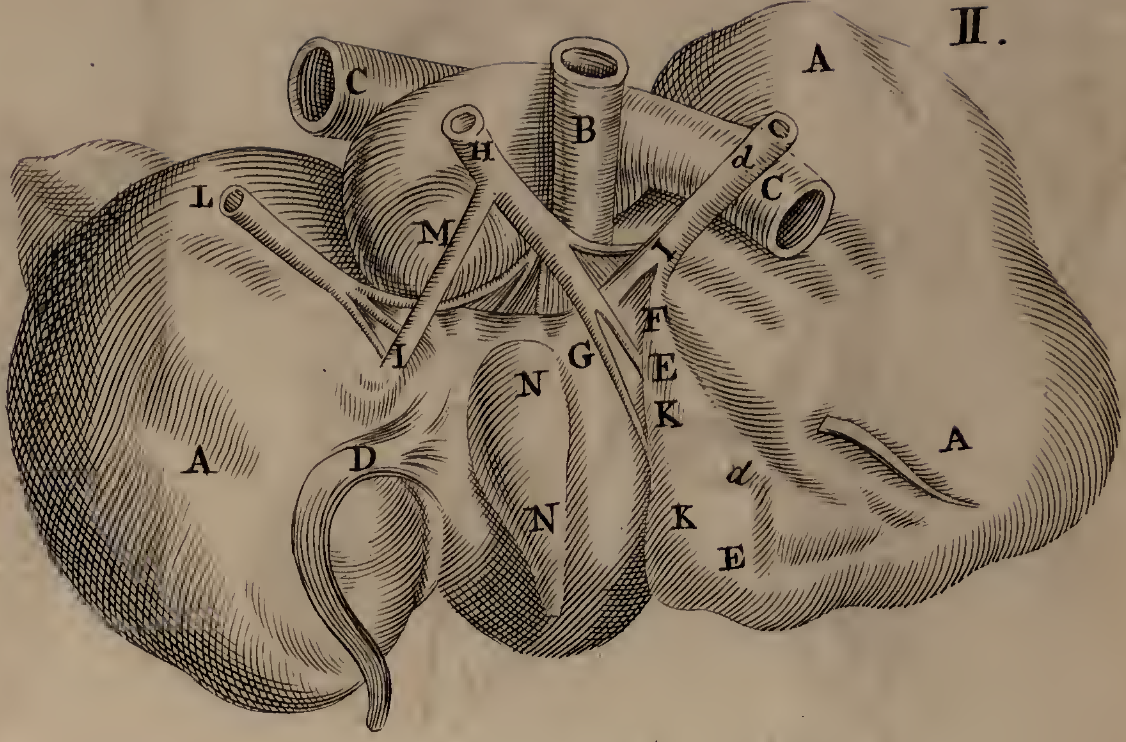

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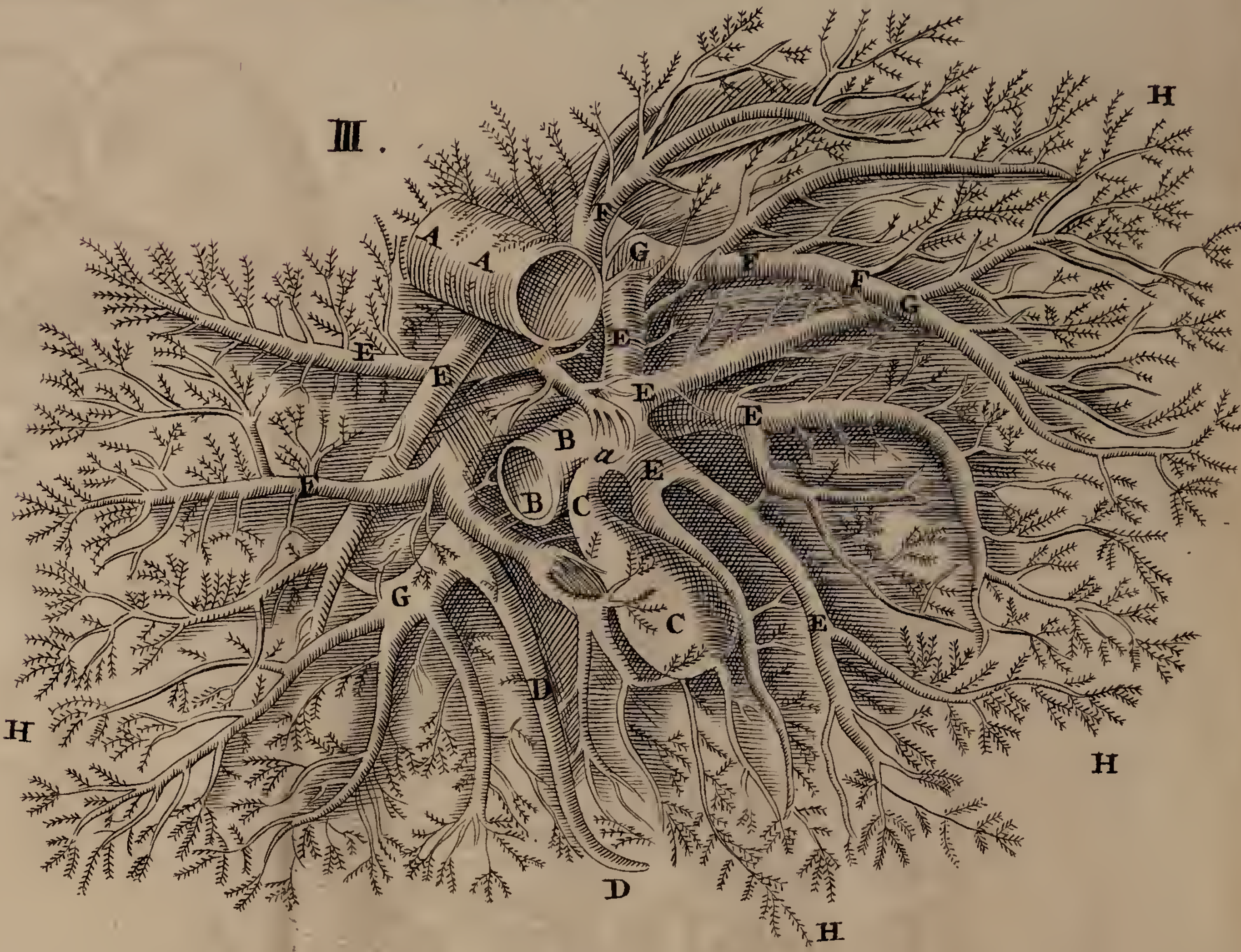

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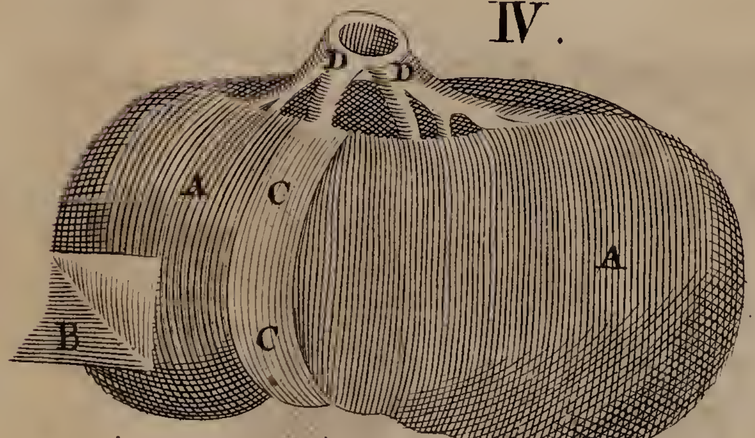

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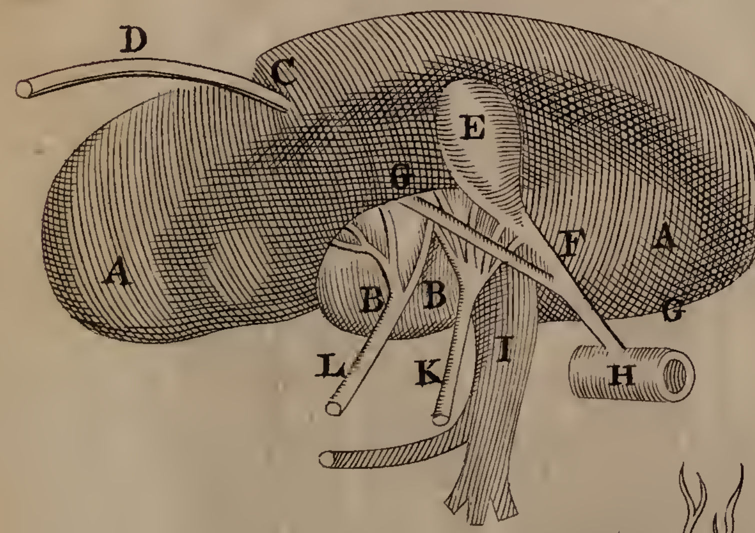

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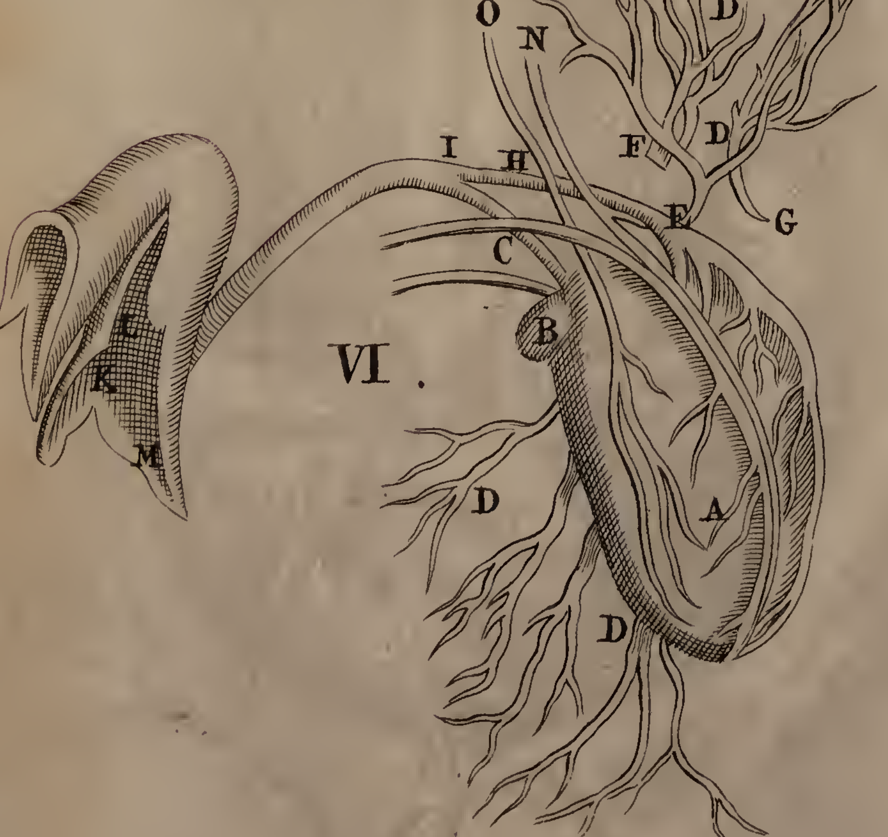

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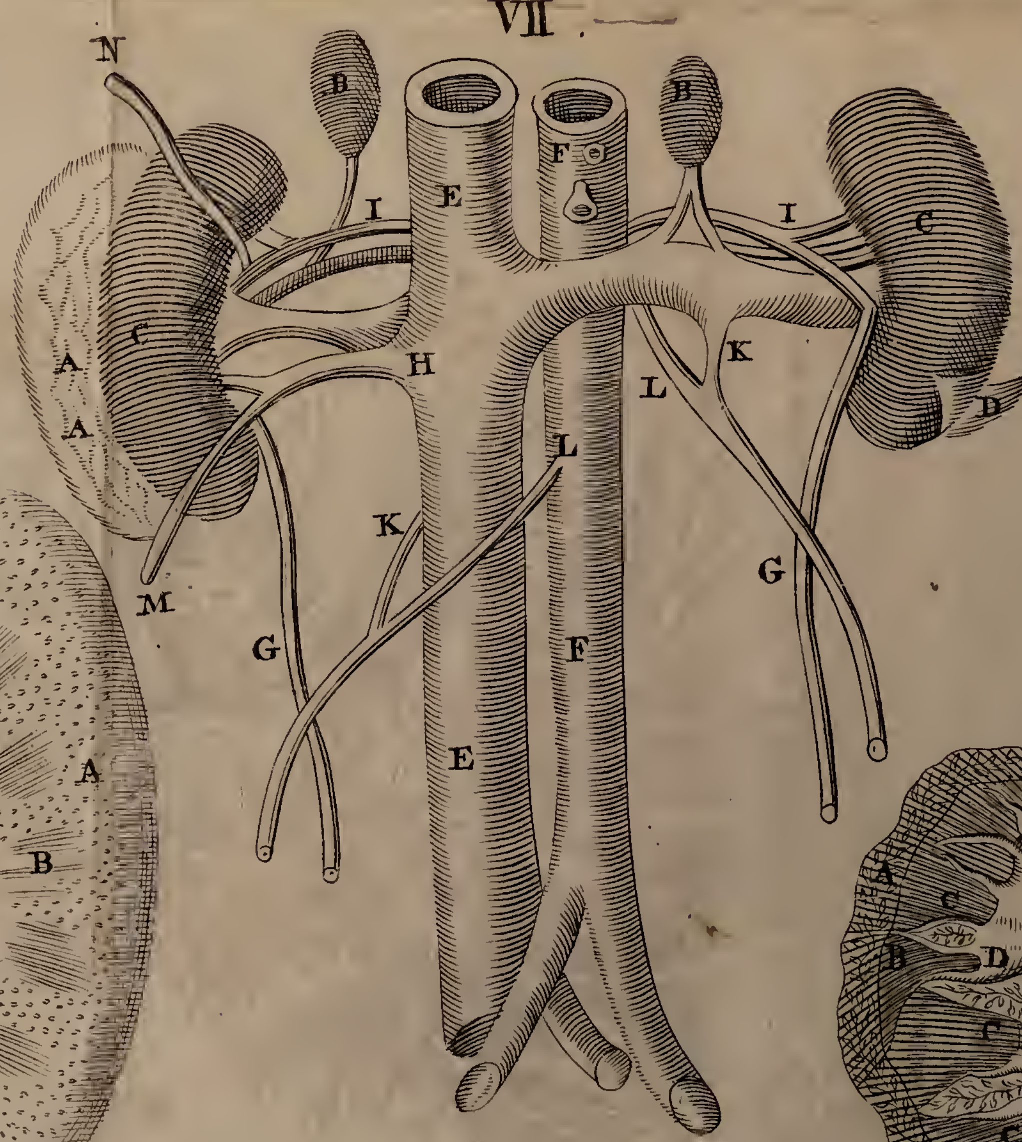

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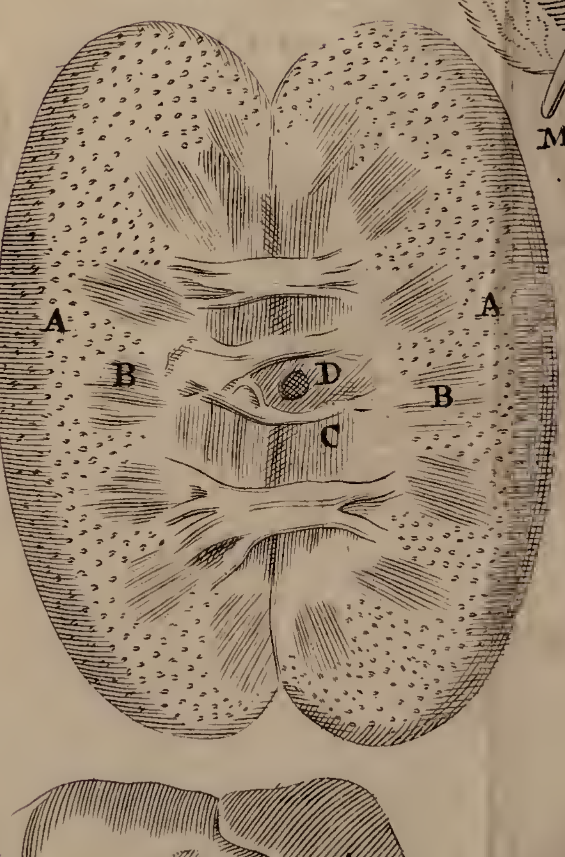

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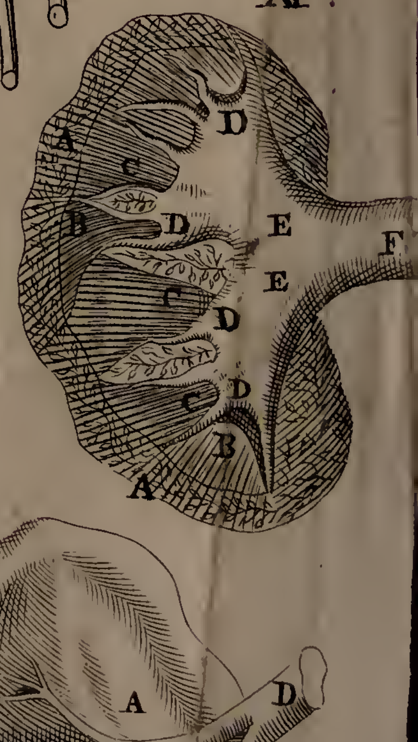

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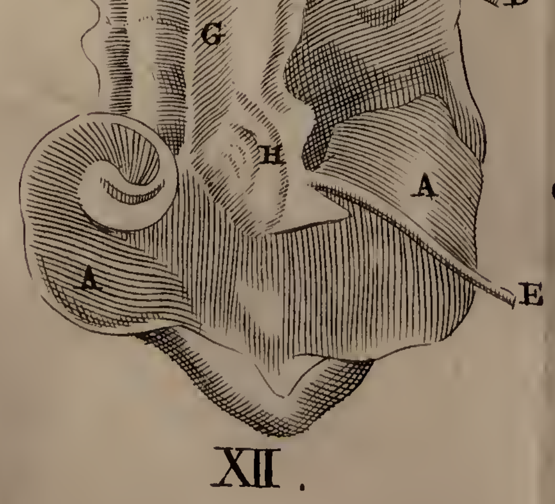

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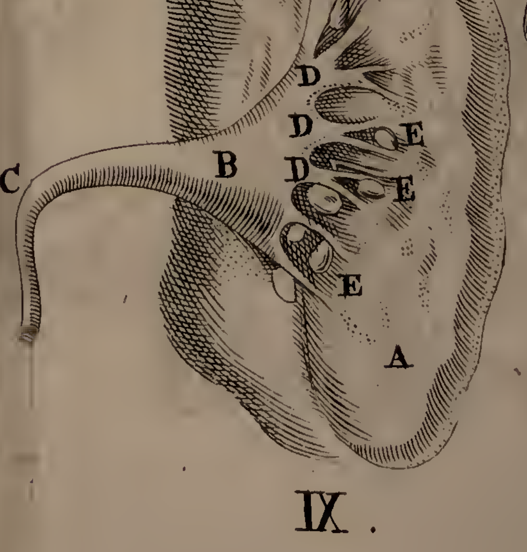

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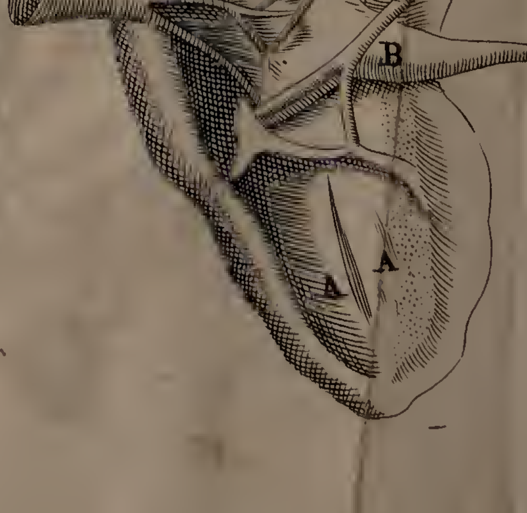


PLATE XII.

Fig. I.	SHews the urinary Veſſels, and thoſe which ſerve to Generation in Men.
A. A. A.	The under concave Part of the Liver.
B.	The Gall-Bladder.
C.	The *Ductus Bilarius* turn'd upwards.
D.	The *Vena Cyſtica.*
E.	The Artery diſtributed to the Liver and Bladder.
F.	The Umbilical Vein turn'd upwards.
G. G.	The deſcending Trunk of the *Vena Cava.*
H. H.	The deſcending Trunk of the *Aorta.*
I. I.	The Emulgent Veins.
K. K.	The Kidneys.
L. L.	The Emulgent Arteries.
M. M.	The *Glandulæ renales* with their Veſſels from the Emulgents.
N. N.	The Ureters going from the Kidnies to the Bladder.
O.	The Bottom of the Bladder.
P. P.	The Inſertion of the *Ureters* in the Sides thereof.
Q. Q.	A Portion of the *Urachus* hanging down.
R.	A Portion of the *Rectum* cut off.
S. S.	The *Venæ Præparantes,* of which the Right proceeds from the Trunk of the *Cava,* the Left from the *Emulgent.*
T.	The *Corpus Pyramidale* ariſing from the Union of the *Vaſa Præparantia.*
V.	The Origin of the *Arteriæ Præparantes* out of the Trunk of the *Aorta.*
X. X.	The *Teſtes,* of which the Left is diveſted of its common Integument.
Y. Y.	The *Vaſa Deferentia* aſcending from the *Teſtes* to the *Abdomen.*
Z.	The *Penis.*
a. a.	The *Scrotum* which incloſed the Left Teſticle.
b. b.	The *Oſſa Ilia.*
c. c.	The *Oſſa Pubis.*
d. d.	The Loins.

Fig. II.	Is a View of the Liver taken out of the Body, and the Veſſels belonging thereto.
A. A. A.	The under ſinuous Part of the Liver.
B.	The *Vena Portæ* going out of it.
C. C.	Two Trunks of the *Vena Cava* by the gibbous Part of the Liver.
D.	The Umbilical Vein ariſing out of the Liver.
E. E.	The Gall-Bladder.
F.	The *Ductus Bilarius*, or *Cyſtic Duct*.
G.	The other, call'd the *Hepatic Duct*.
H.	An Artery from the *Ramus Cæliacus*.
I.	A Branch thereof entering the Liver.
K.	Another Branch of the ſame going to the Gall-Bladder.
L.	A Nerve from the ſixth Pair.
M.	A ſmall Lobe ariſing into the Caul, by means whereof the Liver, when full of Water, ſometimes is evacuated.
N. N.	The Protuberances, which were formerly call'd the *Portæ*, whence the Vein B was call'd *Vena Portæ*.
a.	The Part of the *Veſica Fellis* prominent above the Liver.
d.	The *Ductus Communis*, or *Choledochus*, form'd by the Meeting of the *Cyſtic Duct* F, and the *Hepatic* G.
Fig. III.	Exhibits a View of the Liver freed from its Parenchymous Subſtance, that the Ramifications, Anaſtomoſes, &c. of the Veſſels may appear.
A. A.	A Portion of the *Vena Cava*.
B. B.	The Beginning of the Trunk of the *Vena Portæ*.
C. C.	The Gall-Bladder.
D. D.	The Umbilical Vein ending in a Branch of the *Vena Portæ*.
E. E, &c.	Branches of the *Vena Portæ* diſperſed through all the Parenchymous Subſtance in very numerous and minute Ramifications.

F. F, &c.

F. F. *&c.*	Branches of the *Vena Cava* ſpent chiefly upon the upper Parts of the Liver, and in various Places joining thoſe of the *Portæ.*
G. G. *&c.*	The more notable Anaſtomoſes of the Branches of the *Vena Cava* and *Portæ.*
H. H. *&c.*	The Capillary Extremities of the ſaid Veins.
a.	The *Ductus Cyſticus.*
Fig. IV.	Shews the upper gibbous Part of the Liver.
A. A.	The convex or gibbous Superficies of the Liver.
B.	The Membrane of the Liver ſeparated.
C. C.	The *Ligamentum Septale.*
D. D.	The Egreſs of the Branches of the *Vena Cava,* from the upper Part of the Liver.
Fig. V.	Is a View of the concave Part of the Liver, and Veſſels thence proceeding.
A. A.	The ſinuous or concave Part of the Liver turn'd upwards.
B. B.	The Lobe to which the *Omentum* is joined.
C.	The Fiſſure, out of which
D.	The Umbilical Vein deſcends.
E.	The Gall-Bladder.
F.	The *Ductus Cyſticus.*
G. G.	The *Ductus Hepaticus* ending in
H.	A Part of the *Duodenum.*
I.	The Trunk of the *Vena Portæ* deſcending from the Liver.
K.	The Right *Cœliac* Artery.
L.	A Nerve from the 6th Pair.
Fig. VI.	Is a Repreſentation of the Gall-Bladder apart from the Liver, with its Veſſels.
A.	The Bottom of the Gall-Bladder.
B.	A kind of *Sinus* at the Neck of the Bladder; or, according to others, a *fibrous Ring,* which by ſome have been impoſed, who thought there were Valves placed here to hinder the Return of the *Choler.*
C.	The Neck of the Bladder, or *Ductus Cyſticus.*

D. D. The original Sources of the *Ductus Cyſticus* among the Branches of the *Vena Portæ* and *Cava.*

E. The Concourſe of the Ducts.

F. A Branch of the *Vena Portæ.*

G. A Branch of the *Vena Cava.*

H. The *Porus Bilarius*, or *Hepatic* Duct.

I. The Beginning of the *Ductus communis* of the *Cyſtic* and *Hepatic* Duct.

K. The Orifice thereof in the *Duodenum.*

L. M. The *Duodenum* ſlit to ſhew the ſame.

N. An Artery diſperſed through the Liver.

O. A ſmall Nerve ſent to the Liver and Gall-Bladder. *Engrav'd too big.*

Fig. VII. Exhibits a View of the Kidnies, Emulgent Veſſels, *&c.*

A. A. The common Membrane of the Kidnies ſeparated.

B. B. The *Renes Succenturiati.*

C. C. The Kidnies.

D. A Part of the proper Membrane ſeparated.

E. E. The deſcending Trunk of the *Vena Cava.*

F. F. The deſcending Trunk of the *Aorta.*

G. G. The *Ureters.*

H. H. The Emulgent Veins.

I. I. The Emulgent Arteries.

K. K. The Spermatic Veins.

L. L. The Spermatic Arteries.

M. The *Vena Adipoſa* from the Emulgent.

N. The *Arteria Adipoſa.*

Fig. VIII. Shews the Ingreſs of the Emulgent Veſſels on the hollow Side of the Kidnies.

A. A. A. The Inſide of the Kidney ſlit lengthways.

B. The *Pelvis* or Baſon of the *Ureter.*

C. The Emulgent Vein diffuſed in various Branches thro' the Kidney.

D. The Emulgent Artery, which, by various Branches thro' the Kidney, inoſculates with the Capillaries of the Vein.

Fig. IX.

Fig. IX.	Shews the Riſe of the *Ureters* in the Kidnies,
A. A.	The Kidney diſſected.
B.	The *Pelvis* or Baſon.
C.	The *Ureter* hanging down.
D. D. D.	Small Tubes of the *Pelvis* or *Ureter*, embracing
E. E. E.	The Papillary Caruncles, into which the *Serum* iſſues through the urinary *Tubuli*, and from whence, by very ſmall Perforations, it ouzes into the Tubes of the *Pelvis* to be carried off by the *Ureter* to the Bladder.
Fig. X.	Repreſents a Kidney cut longitudinally from the Back to the *Pelvis*.
A. A.	The glandulous Part of the Kidney.
B. B.	The *Tubuli*, which bring the Urine into
C. C.	The *Pelvis*, where it enters
D.	The Mouth of the *Ureter*.
Fig. XI.	Another View of the internal Structure of the Kidnies.
A. A.	The glandulous Subſtance of the Kidney.
B. B.	The *Urinary Tubuli*.
C. C.	The internal Texture of the *Glandulæ papillares*, like leafy Twigs.
D. D, *&c.*	The Tubes of the *Pelvis*.
E. E.	The *Pelvis*.
F.	The Beginning of the *Ureter*.
Fig. XII.	Shews the Kidney cut lengthways thro' the *Ureter* to the *Pelvis*.
A. A. A.	The Kidney ſo diſſected.
B.	Half the *Ureter* bent to the Right Hand.
C.	The other Half bent to the Left.
D.	A Branch of the Emulgent Vein.
E.	A Branch of the Emulgent Artery.
F.	The Extremity and
G. G.	The whole internal Cavity of the *Pelvis* opened.
H. H. H.	The *Papillæ*, thro' which the Urine iſſues into the Tubes of the *Pelvis*.

Plate XIII.

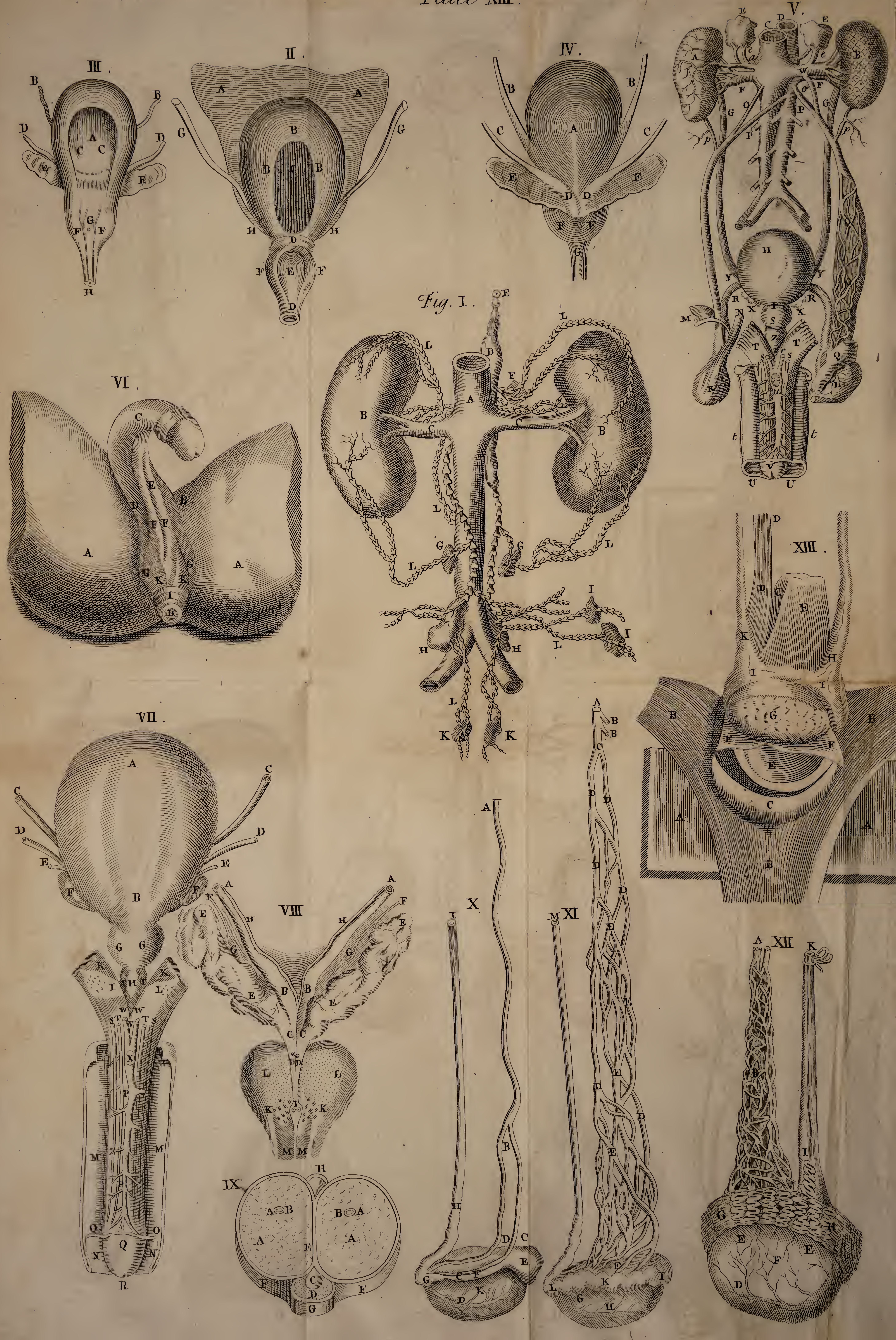


Fig. I. IS a View of the *Vaſa Lymphatica*, their Structure, Courſe, *&c.*

A. The Trunk of the *Aorta.*
B. B. The Kidnies.
C. C. The Emulgent Arteries.
D. The *Receptaculum Chyli.*
E. The *Ductus Thoracicus* cut off.
FGHIK. Several Glands, with which
L. L. *&c.* The *Vaſa Lymphatica* communicate, and afterwards diſcharge their Contents into the Receptacle of the *Chyle.*

Note, The *Lymphatics* in the Upper-part of this Figure proceed from the Kidnies, thoſe in the Lower-part from other Parts of the Body; there being no Parts of animal Bodies but what ſend out ſome Lymphatics, except the *Brain*, where none have yet been obſerv'd.

Fig. II. Shews the Coats and Parts of the Bladder.
A. A. The common Coat of the Bladder.
B. B. B. Its middle Coat of muſcular Fibres.
C. Its inner wrinkly Coat.
D. D. The Neck of the Bladder.
E. The *Sphincter* Muſcle thereof.
F. F. The *Glandulæ proſtatæ.*
G. G. The *Ureters.*
H. H. Their Inſertion between the two proper Coats of the Bladder.

Fig. III. Shews the Bladder and Seminal Glands diſſected, with the *Veſiculæ Seminales*, &c.
A. The inner Coat of the Bladder laid open.
B. B. The *Ureters.*
C. C. The Orifices of the *Ureters* opening obliquely into the Bladder.
D. D. The *Vaſa Deferentia* going to their Inſertions.
E. E. The *Veſiculæ Seminales* expanded.
F. F. The *Glandulæ proſtatæ* divided.

G. The *Foramen*, which leads from the *Veſiculæ* into the Beginning of the *Urethra*, at which there is placed a Valve.
H. The Paſſage at the Beginning of the *Urethra* common to the *Semen* and *Urine*.

Fig. IV. Is a View of the Situation, Inſertions, *&c.* of the *Ureters* and Seminal Veſſels on the poſterior Part of the Bladder.

A. The Hinder-part of the Bladder.
B. B. The *Ureters*.
C. C. A Portion of the *Vaſa Deferentia*.
D. D. Are what *Bartholin* calls the *Capſulæ Seminales*.
E. E. The *Veſiculæ Seminales*.
F. F. The *Glandulæ proſtatæ*.
G. The *Urethra*.

Fig. V. Is a View of the *Vaſa Seminalia*, and Genital Parts in Men.

A. A Kidney diveſted of its Membranes, to ſhew the Ramifications of the Blood-Veſſels on its Superficies.
B. The other Kidney.
C. The Trunk of the *Vena Cava*.
D. The Trunk of the *Aorta*.
E. E. The Renal Glands, with their Veſſels *e e*.
F. F. The Emulgent Veſſels.
G. G. The *Ureters*.
H. The Bladder.
I. The Neck thereof.
K. A Teſticle diveſted of the *Scrotum* hanging down.
L. The other Teſticle diveſted of its common Tunicles, to ſhew the Branching of Veſſels and *Epididymis*.
M. The Proceſs of the *Peritonæum* (in which the *Vaſa Præparantia* go incloſed to the Teſticle) cut off.
N. The *Cremaſter* Muſcle cut off.
O. O. The *Venæ Præparantes*, improperly thus called.

P. P.	The *Arteriæ Præparantes.*
Q.	The *Epididymis* or *Paraſtatæ.*
R. R.	The *Vaſa Deferentia*, or carrying the Seed to the *Veſiculæ Seminales.*
S.	The *Corpus Glandoſum.*
T. T.	The two nervous Bodies which compoſe the *Penis*, which appear when the Skin of the *Penis* t t is drawn aſide.
U. U.	The *Præputium* drawn aſide.
V.	The Glans of the *Penis.*
W.	The extraordinary Inſertion of the Left Spermatic Vein *o* into the Emulgent, and not into the Trunk of the *Cava*, as on the other Side; leſt paſſing over the *Aorta*, the returning Stream of ſeminal Blood ſhould be annoy'd or interrupted by its continual Pulſations.
X. X.	The *Veſiculæ Seminales.*
Y. Y.	The Inſertion of the *Ureters.*
Z.	The Beginning of the *Urethra.*
r. r.	The Veins which unite into one Trunk, and run on the Back of the Yard.
s. s.	The *Arteries*, with Nerves on each Side.
u.	The Veins open'd to ſhew the *Valves.*
Fig. VI.	Shews the Muſcles of the *Penis in ſitu.*
A. A.	The *Nates* or Buttocks.
B.	The Region of the *Pubes.*
C.	The *Penis* diveſted of the Skin.
D. D.	The *Corpora Cavernoſa*, or nervous Bodies.
E.	The *Urethra.*
F. F.	The two Muſcles which dilate the *Urethra.*
G. G.	Other two which erect the *Penis.*
H.	The *Anus.*
I. I.	The *Sphincter Ani.*
K. K.	Two Muſcles which draw the *Rectum* upwards.
Fig. VII.	Shews the Bladder, Seminal Glands, the *Penis* and its Veſſels.
A.	The Upper-part or Tund of the Bladder.

B. Its Neck.

C. C. Portions of the *Ureters.*

D. D. Portions of the *Vaſa Deferentia.*

E. E. Veſſels running to the *Veſiculæ Seminales.*

F. F. The *Veſiculæ Seminales*, or Seed-Bladders.

G. G. The Fore-part of the *Proſtatæ*, or *Corpus Glandoſum.*

H. The *Urethra.*

I. I. The ſpongeous Part thereof.

K. K. The *Erectores Penis.*

L. L. The Beginning of the nervous Bodies of the *Penis* ſeparated from the *Oſſa Pubis.*

M. M. The Skin of the *Penis* drawn aſide.

N. N. The Duplicature of the Skin forming the *Præputium.*

O. O. The Skin that was faſten'd behind the *Glans.*

P. P. The Back of the *Penis.*

Q. The *Glans.*

R. The Perforation therein thro' which the Urine iſſues forth.

S. S. The Nerves which run along the Back of the *Penis.*

T. T. The Arteries in like manner.

V. The Conjunction of the nervous Bodies.

W. W. The two Veins which unite and form one conſiderable Branch which runs along on the Back of the *Penis.*

X. A Hole cut in the ſaid Vein ſhewing the *Valves* therein, as at *u* in the laſt Figure but one.

Fig. VIII. Is a View of the *Vaſa Deferentia*, *Veſiculæ Seminales*, and *Proſtatæ.*

A. A. The Parts of the *Vaſa Deferentia* which appear thick, yet have but a ſmall Cavity.

B. B. The Parts thereof which have a larger Cavity and thinner Subſtance.

C. C. The Extremities of the ſame Veſſels again becoming narrower, and communicating, by a ſmall Hole, with

D. D.	The Neck of the Seed-Bladders, and which are parted by a thin Membrane, ſo that the Seed may be ſupplied on one Side, tho' obſtructed on the other.
E. E.	The *Veſiculæ Seminales* or Seed-Bladders blown up, that their wonderful Widenings and Coarctations may appear.
F. F.	Veſſels going to the Seed-Bladders.
G. G.	The Membranes which keep the *Veſiculæ* and *Vaſa Deferentia* in their Places.
H. H.	Blood-Veſſels on the Sides of the *Vaſa Deferentia.*
I.	A Caruncle call'd *Caput Gallinaginis*, or Woodcock's Head ; thro' two ſmall Holes in which (as thro' the Eyes) the Seed is darted into the *Urethra in Coitu.*
K. K.	The Ducts of the *Proſtatæ* opening into the *Urethra*, by the Sides of the Caruncle.
L. L.	The *Proſtatæ* or *Corpus Glandoſum* divided.
M. M.	The *Urethra* opened.
Fig. IX.	Is a tranſverſe Section of the *Penis.*
A. A.	The ſpongy or cavernous Subſtance of the nervous Bodies of the *Penis* on each Side.
B. B.	The Sections of the two Arteries which march through the nervous Bodies.
C.	The urinary Paſſage of the *Urethra.*
D.	The ſpongeous Subſtance of the *Urethra.*
E.	The *Septum* between the nervous Bodies.
F. F.	A ſtrong Membrane encloſing the nervous Bodies.
G.	A thin Membrane about the *Urethra.*
H.	A Vein creeping along the Back of the *Penis.*
Fig. X. XI. XII.	Are Views of the *Vaſa Præparantia*, *Teſtes*, *Epididymis*, *Vaſa Deferentia*, &c.
A.	The Artery preparing Seed, deſcending from the Trunk of the *Aorta* to the Teſticle.
B.	Its Diviſion into two Branches.
C. C.	The Leſſer Branch which runs to the *Epididymis.*

D. D. The Greater Branch which is ſpent on the Subſtance of the Teſticles.

E. The Greater End of the *Epididymis* connected to the Upper-part of the Teſticle.

F. The Middle-part of the *Epididymis* turn'd up, that the Ramifications of the Artery on the Belly of the Teſticle may appear.

G. The Smaller End of the *Epididymis.*

H. The Beginning of the *Vas deferens.*

I. The *Vas deferens* cut off.

K. The Body of the Teſticle ſo placed that its Veſſels may beſt be ſeen.

Fig. XI. A. The Vein improperly ſaid to *prepare Seed*, whereas it only returns the Blood, after the ſeminal Secretion, from the Teſticles to the *Vena Cava.*

B. B. The Branches of the ſaid Vein coming from the *Omentum* and *Peritonæum.*

C. The firſt Diviſion into two Branches, or, more properly, the Union of the two Branches, which are compoſed of the Union of divers other leſſer ones below them, which are wonderfully ramified and united.

D. D. D. D. Denote the Places where are the *Valves* of the *Vena Præparans*, and which occaſion the Veins, when blown up, to appear knotty in theſe Parts.

E. E. E. E. The numerous Unions and Coaleſcencies of the leſſer Branches of the *Venæ Præparantes.*

F. The Upper-part of the Teſticle, into which the Ramifications of the *Venæ Præparantes* are implanted.

G. G. The Ramifications of the ſaid Veins creeping along the Sides of the Teſticles through their *Tunica Albuginea*, or White Coat.

H. The Body of the Teſticle.

I. The Greater End, }
K. The Middle, and } of the *Epididymis.*
L. The Leſſer End }

M. The *Vas deferens* cut off near the Middle.

Fig. XII. A. The *Vaſa Præparantia* cut off in a Dog.

B. The Part of the *Vaſa Præparantia*, which is, from its Form, call'd *Corpus Pyramidale*, and is form'd of the promiſcuous Intercourſe and Circumvolutions of the numerous Branches of the ſaid Veſſels.

C. The Ramifications tending to the *Epididymis*.

D. The greateſt Branch of the *Arteria Præparans* running along the Belly of the Teſticle.

E. E. The Ramifications of the *Venæ Præparantes*.

F. A Dog's Teſticle ſwell'd with Seed.

G. The greater End } of the *Epididymis* turgid with
H. The leſſer End } Seed.

I. The Beginning of the *Vas deferens*, carrying the Seed thro' its winding Veſſels to the *Veſiculæ Seminales*.

K. The *Vas deferens* of a Dog tied before Coition, the *Vaſa Præparantes* being unhurt, that the ſeminal Veſſels, being diſtended with Seed, may be ſeen more apparently.

Fig. XIII. Shews the Tunics, Subſtance, and Veſſels of the Teſticles.

A. A. The Skin of the *Scrotum* ſeparated.

B. B. B. The carnous Membrane call'd *Dartos*.

C. C. The firſt Coat of the Teſticles, call'd *Elythroeides*.

D. D. The *Cremaſter* Muſcle.

E. E. The ſecond Coat, call'd *Erythroides*.

F. F. The third or inmoſt Coat, call'd *Albuginea*.

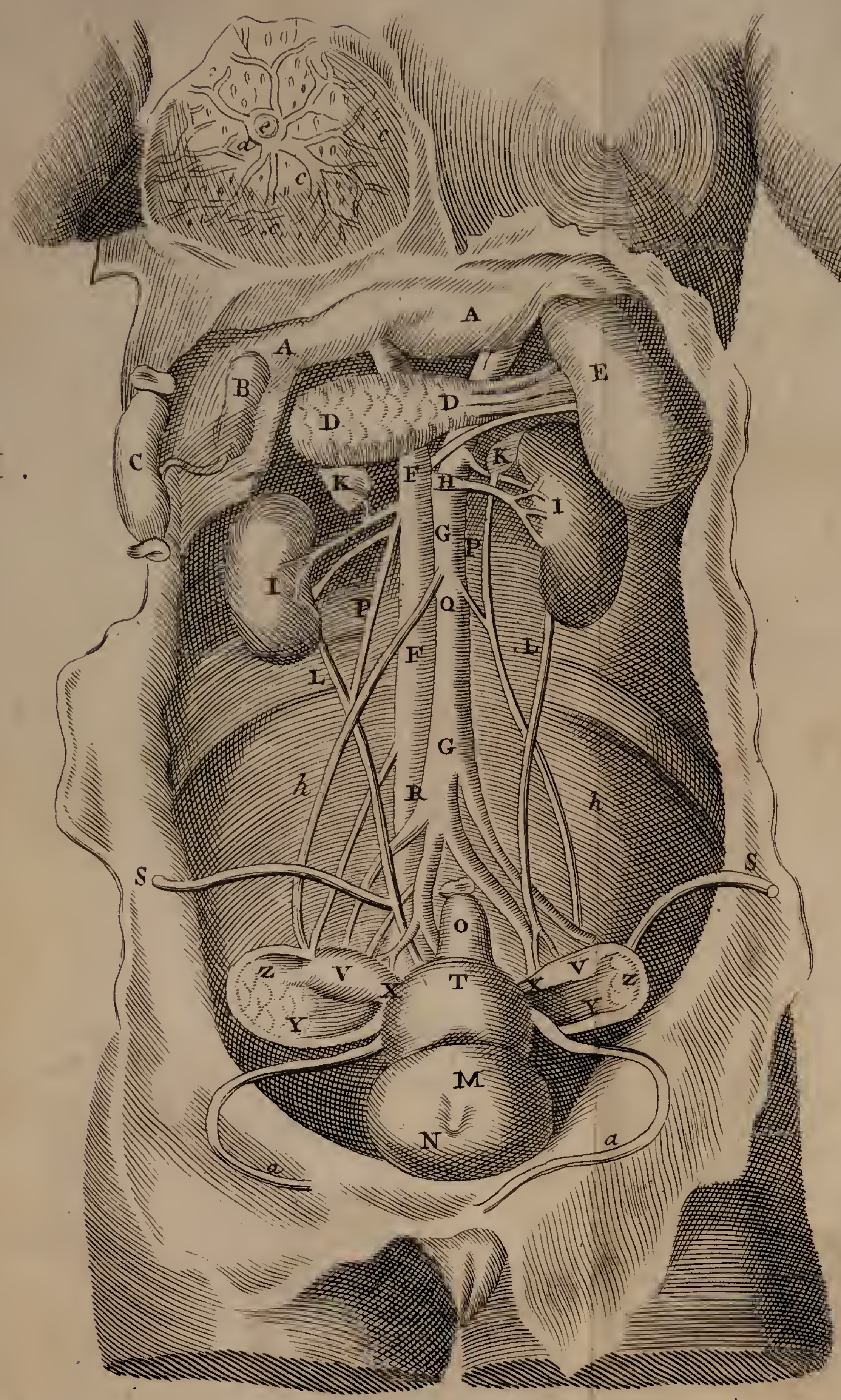
G. The glandulous Subſtance of the Teſticle.

H. The *Vas* or *Corpus Pyramidale*.

I. I. The *Epididymis*.

K. The *Paraſtates*, or *Corpora variciformia*, being no other than the Continuation of the *Epididymis* to the *Vas deferens*.

Fig. I.



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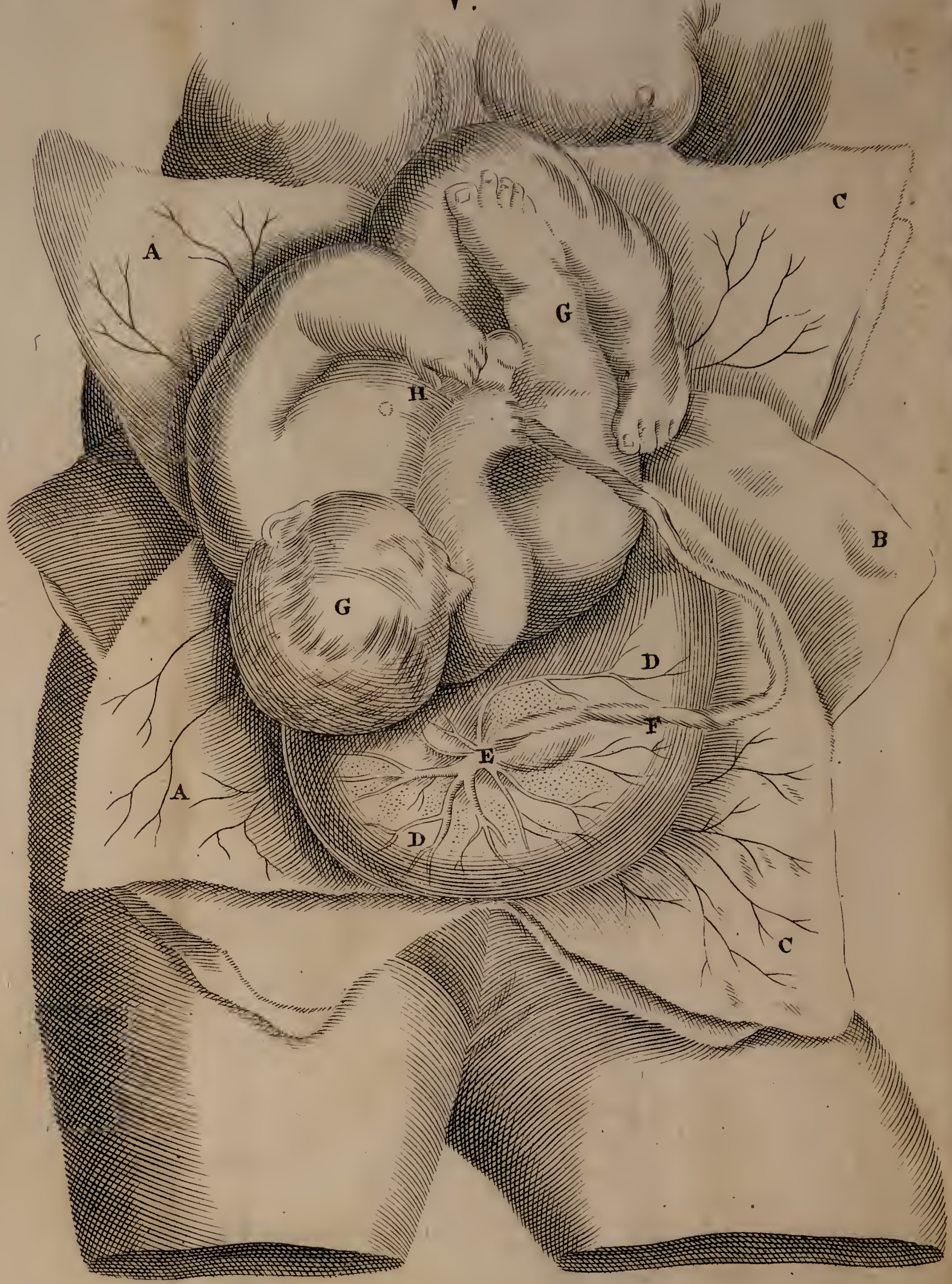

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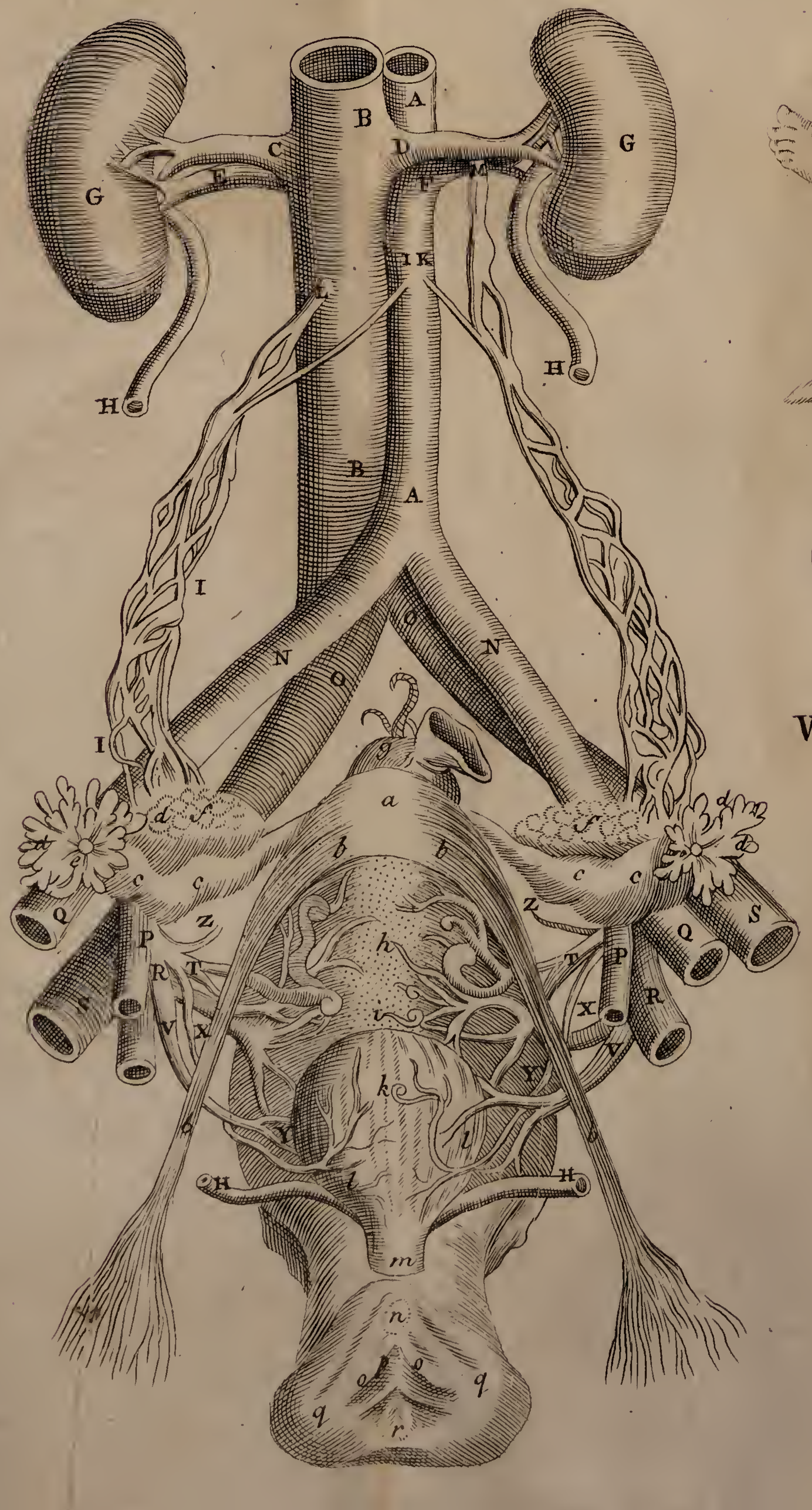

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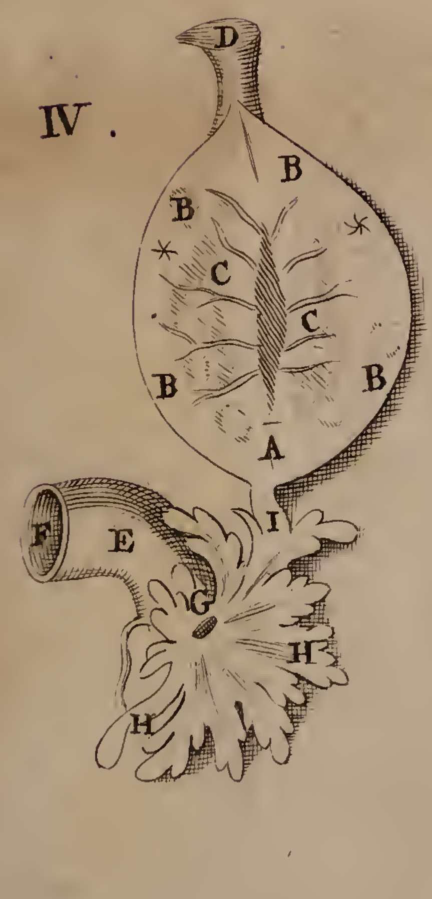

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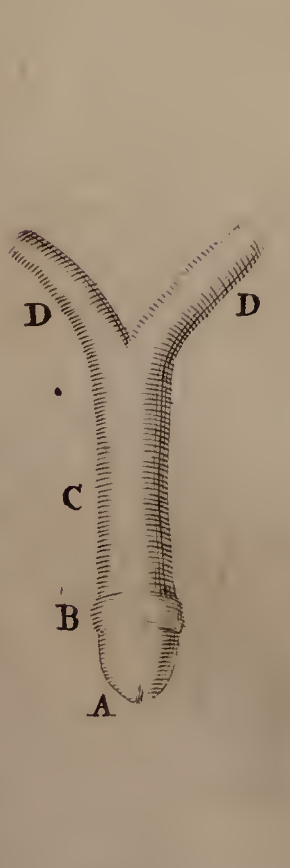

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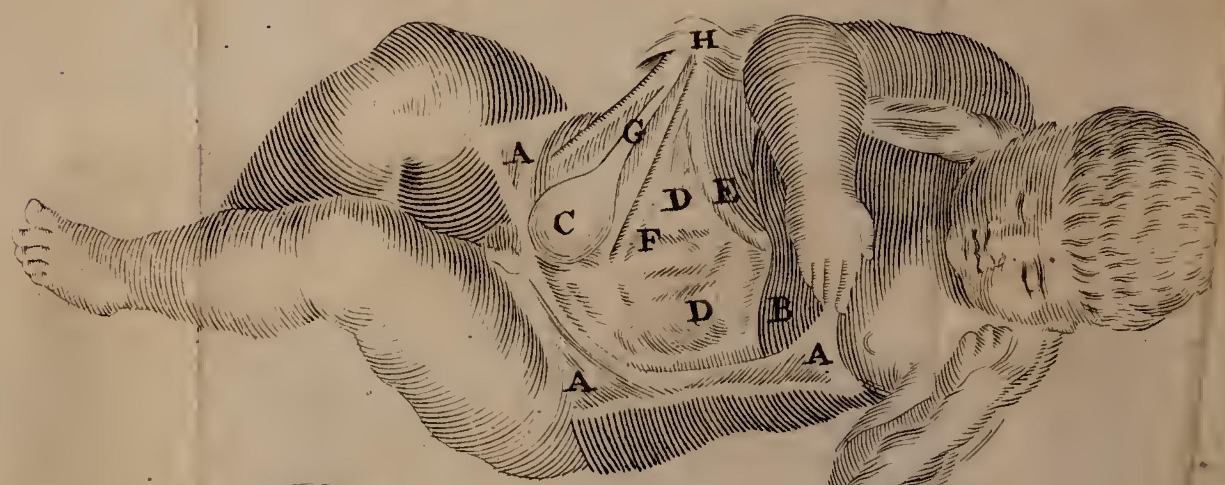
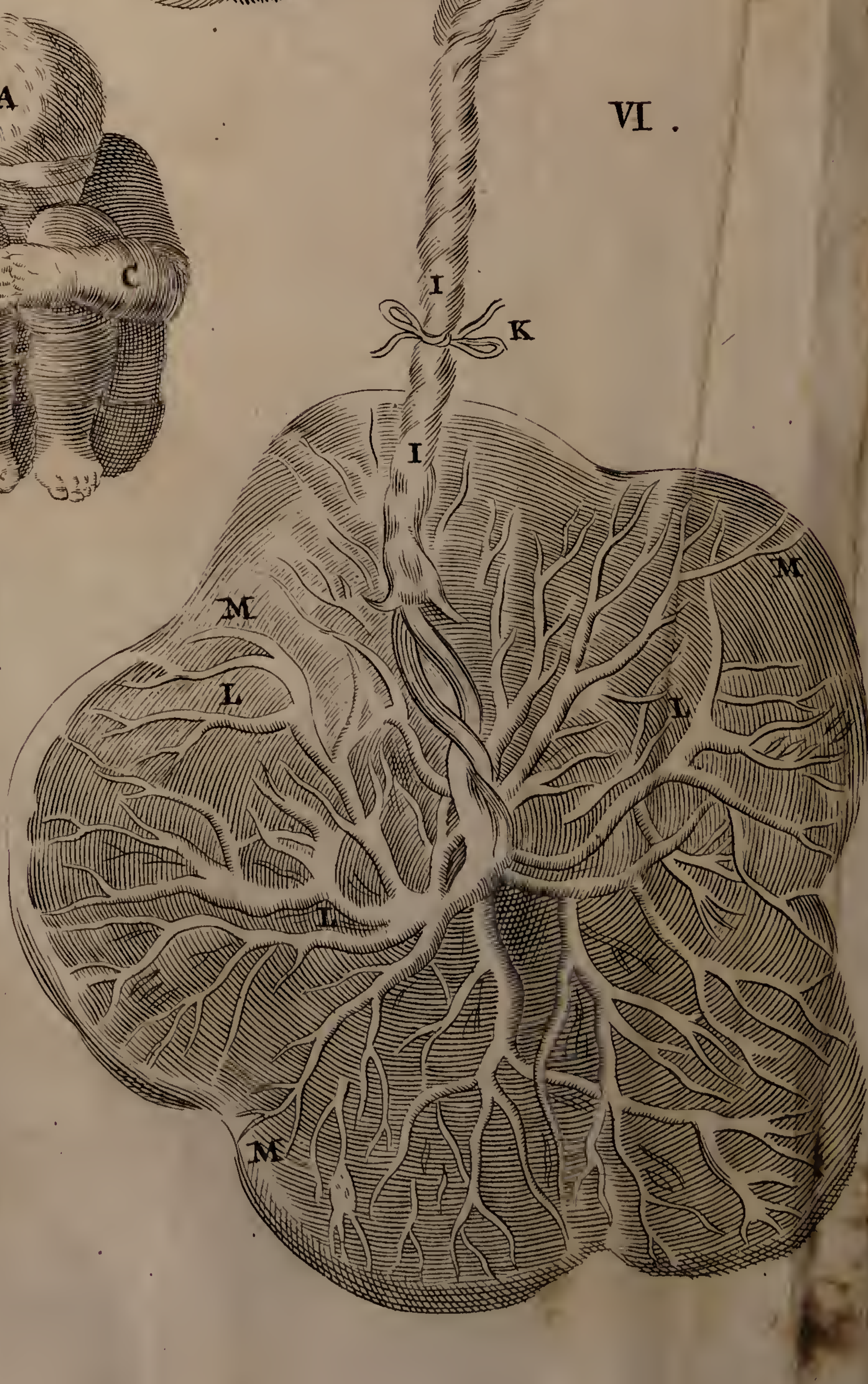

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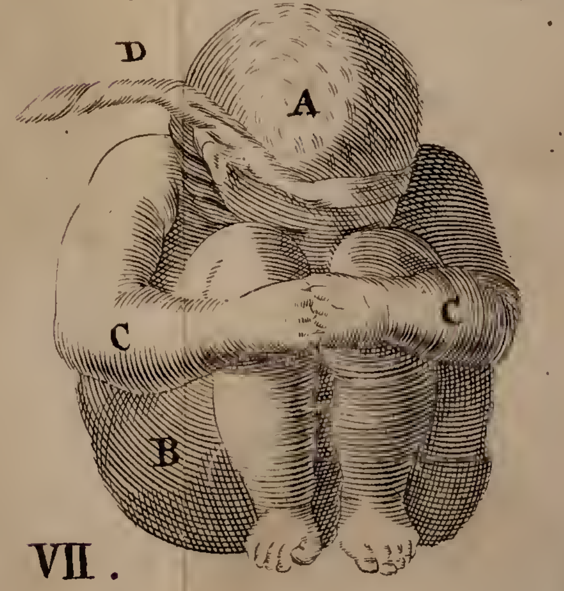


PLATE XIV.

Fig. I. Repreſents the Parts ſerving to Generation in Women in their natural Situation; and the internal Structure of the Breaſt.

A. A.	The Liver in its natural Site.
B.	The Gall-Bladder joined to
C.	A Portion of the *Duodenum* by the Bile-Duct.
D. D.	The *Pancreas*, or Sweet-bread.
E.	The Spleen.
F. F.	The deſcending Trunk of the *Vena Cava.*
G. G.	The deſcending Trunk of the *Aorta.*
H. H.	The Emulgent Veins and Arteries.
I. I.	The Kidnies.
K. K.	The *Renal* Glands.
L. L.	The *Ureters* going to the Bladder.
M.	The Bottom of the Bladder.
N.	The Inſertion of the *Urachus* therein.
O.	Part of the *Inteſtinum Rectum.*
P. P.	The *Venæ Præparantes.*
Q.	The Riſe of the *Arteriæ Præparantes* out of the Trunk of the *Aorta.*
R.	The Place where the Trunks of the *Aorta* and *Cava* begin to divide into the *Iliac* Branches.
S. S.	Portions of the Umbilical Arteries.
T.	The Bottom of the Womb.
V. V.	The *Teſtes Muliebres.*
X. X.	The Parts by which the *Teſtes* communicate with the Womb.
Z. Z.	The *Tubæ Fallopianæ.*
Y. Y.	The two ſuperior Ligaments of the Womb.
a. a.	The two inferior ones.
b. b.	The concave Parts of the *Ilia*, larger in Women than in Men.

In the Breaſt.

c. c. c.	The Veſſels diſperſed thro' its Superficies.
d.	The greateſt and middlemoſt of the Glands.
e.	The *Papilla*, or Teat.

Fig. II. Is

Fig. II.	Is a View of the genital Parts of a Woman taken out of the Body and placed in their natural Situation.
A. A.	The Trunk of the *Aorta.*
B. B.	The Trunk of the *Vena Cava.*
C. D.	The Right and Left Emulgent Veins.
E. F.	The Right and Left Emulgent Arteries.
G. G.	The Kidnies.
H. H.	The *Ureters* at their Riſe and Inſertion.
I. I. I.	The Right Spermatic Artery.
K. K.	The Left ditto.
L. L.	The Right Spermatic Vein.
M. M.	The Left ditto.
N. N.	The *Iliac* Arteries.
O. O.	The *Iliac* Veins.
P. P.	Inner Branches of the *Iliac* Artery.
Q. Q.	The outer ditto.
R. R.	The inner Branches of the *Iliac* Vein.
S. S.	The outer ditto.
T. T.	The *Hypogaſtric* Arteries going to the Womb and *Vagina.*
U. U.	The Veins attending the ſaid Arteries.
X. X.	The Branches of the *Hypogaſtric* Artery tending to the Bladder.
Y. Y.	The correſpondent Veins of the ſame Kind.
Z. Z.	Portions of the Umbilical Arteries.
a.	The Fund of the Womb cloathed with its proper Coat.
b. b.	The *Ligamenta Rotunda.*
c. c.	The *Tubæ Fallopianæ* in their natural Site.
d. d.	The fimbriated Extremities of the *Tubæ.*
e. e.	The *Foramina* of the *Tubæ.*
f. f.	The Teſticles in their natural Site.
g.	A Portion of the Streight Gut.
h.	The Neck of the Womb diveſted of its proper Coat, that the Veſſels may be the better ſeen.

i. The Fore-part of the *Vagina* freed from
k. The Bladder, for that Reaſon contracted.
l. l. The Blood Veſſels running thro' the Bladder.
m. The Sphincter Muſcle of the Bladder.
n. The *Clitoris.*
o. o. The *Nymphæ.*
p. The *Meatus Urinarius.*
q. q. The *Labia Pudendi.*
r. The Orifice of the *Vagina.*
Fig. III. Is a View of the *Clitoris* taken out of the Body.
A. The *Glans* of the *Clitoris.*
B. The *Præputium* thereof.
C. The Body of the *Clitoris.*
D. D. The Roots or *Crura* of the nervous Bodies cut off from the Tubercle of the *Iſchium.*
Fig. IV. Exhibits a Woman's Teſticle or *Ovarium*, with the End of the *Tuba Fallopiana* annexed to it.
A. The Teſticle opened lengthways in its lower Part.
B. B. Eggs of divers Bigneſs contain'd in the membranous Subſtance of the *Teſtis.*
C. C. Sanguiferous Veſſels proceeding plentifully from the Middle and Upper-part of the *Teſtis* to the Eggs.
D. D. The Ligament of the Teſticles, whereby they are knit to the Womb, cut off.
E. A Part of the *Fallopian* Tube cut off.
F. The Cavity of the ſaid Tube.
G. The ſmall Hole in the End of the ſame Tube.
H. H. The leafy or fimbriated Expanſion at the End.
I. The ſaid leafy Part knit to the *Teſtis.*
Fig. V. Is a Repreſentation of a *Fœtus*, its Poſition, the Veſſels connecting it with the Womb, *&c.* near the Birth.
A. A. Portions of the *Chorion* diſſected and removed from their Place.
B. A Portion of the *Amnion* diſſected.
C. C. The Parts of the Womb diſſected and laid open.
D. D. The *Placenta* adhering to the Womb, to which the *Fœtus* is connected.

E. The Divarication of Veſſels, which form

F. F. The *Funiculus* or Navel-String, which contains the Umbilical Veſſels as they proceed from the *Placenta* to the Navel of the *Fœtus.*

G. G. The *Fœtus* now perfect and ready for its Exit, in its proper and uſual Poſition at that Time.

H. The Inſertion of the Umbilical Veſſels in the Navel of the *Fœtus.*

Fig. VI. Is a View of the *Fœtus* taken out of the Womb, together with the *Placenta,* to which it is yet tied by the *Funiculus.*

A. A. A. The *Abdomen* of the *Fœtus* laid open.

B. The Liver.

C. The Bladder.

D. D. The Inteſtines.

E. The Umbilical Vein.

F. The Umbilical Artery.

G. The *Urachus.*

H. The ſaid Umbilical Veſſels without the Body included in one common Coat or Membrane.

I. I. I. The *Funiculus* proceeding from the *Placenta* to the *Fœtus.*

K. A Ligature therein, by which means the Veins below ſwell, and the Arteries ſink or grow leſs.

L. L, *&c.* The Veins and Arteries diſperſed thro' the *Placenta.*

M. M. M. The *Placenta* itſelf ſpread out, ſhewing the Inſertion of the Umbilical Veſſels, and the Network they make by their Intercourſe and mutual Ramifications.

Fig. VII. Shews the Poſture and Site of the *Fœtus* in the Womb during the Time of Geſtation in general.

A. The prone Poſition of the Head hiding the Noſe between the Knees.

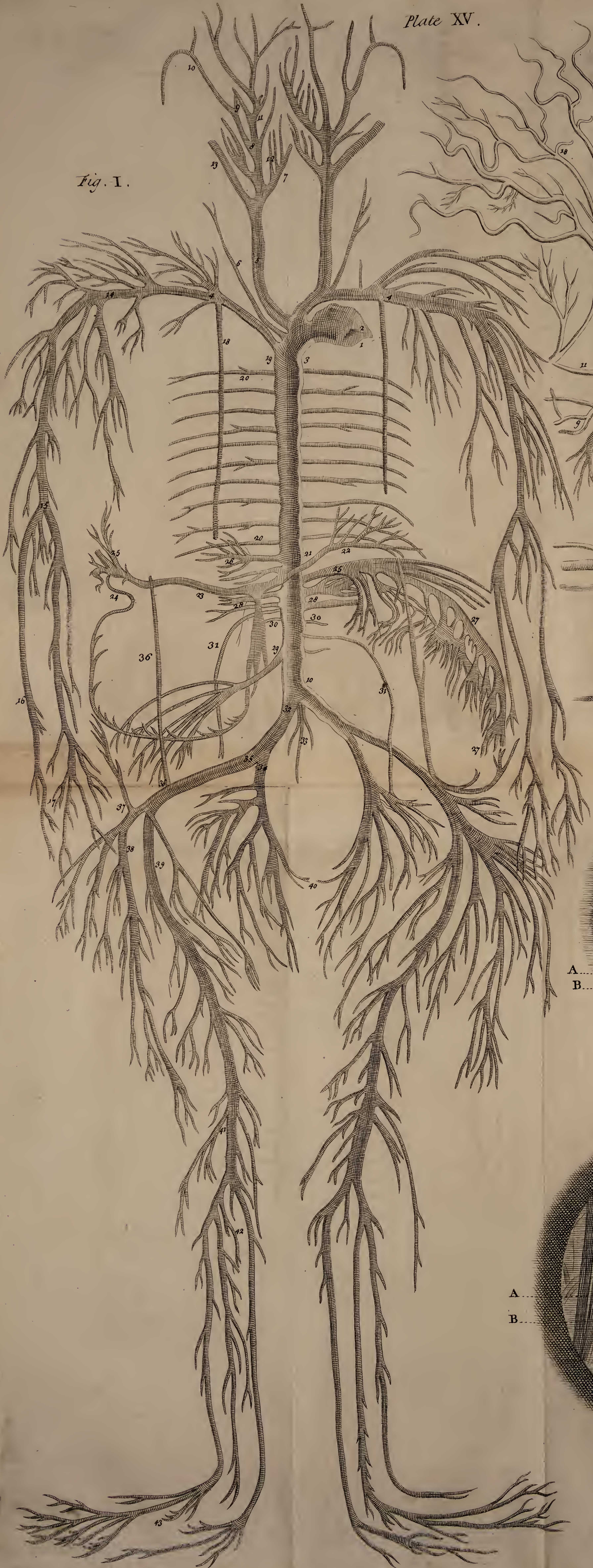
B. B. The Buttocks, againſt which the Heels reſt.

C. C. The Arms embracing the Legs bent up.

D. D. The *Funiculus* coming over the Forehead, and going to its Inſertion.

Plate XV.

Fig. I.



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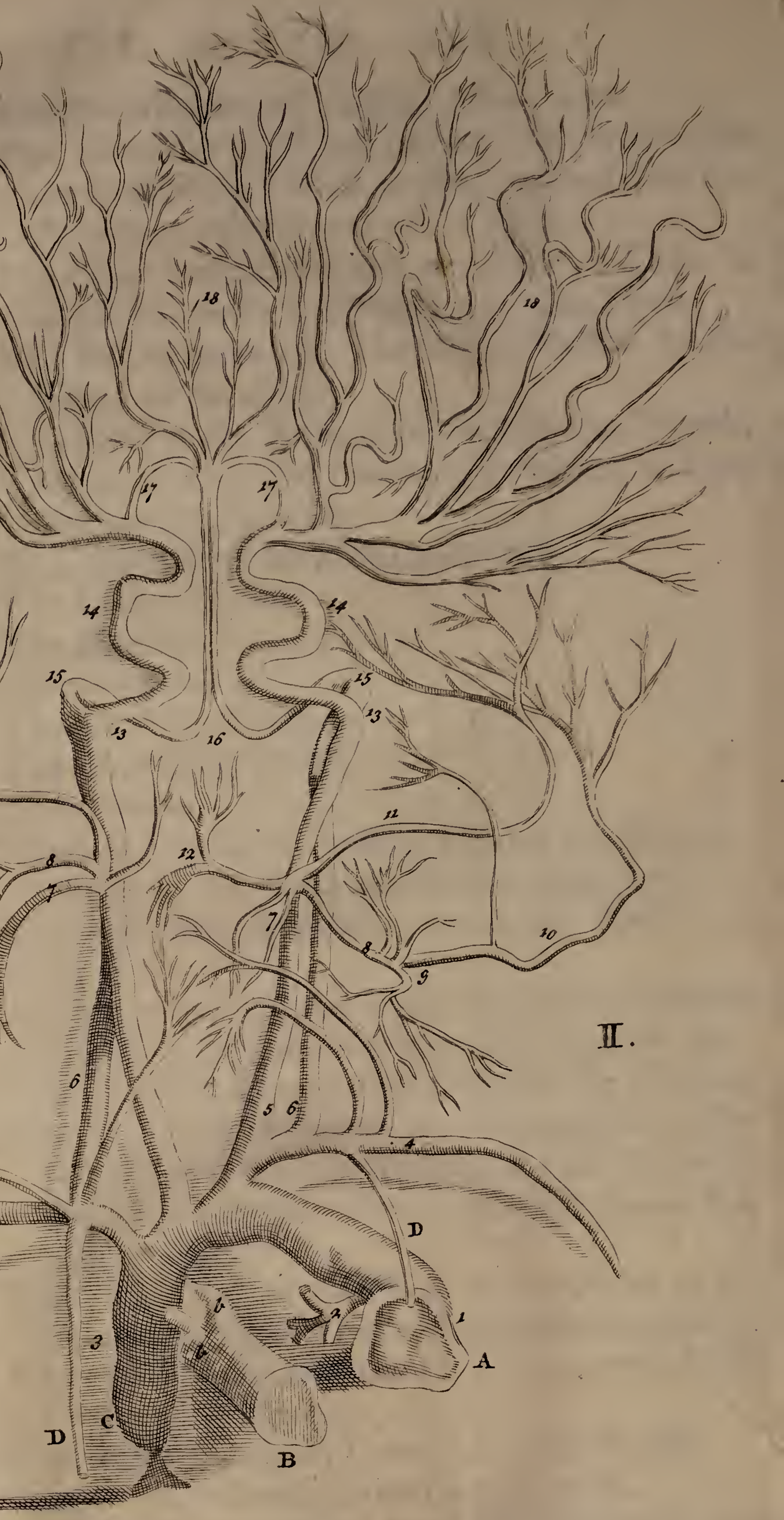

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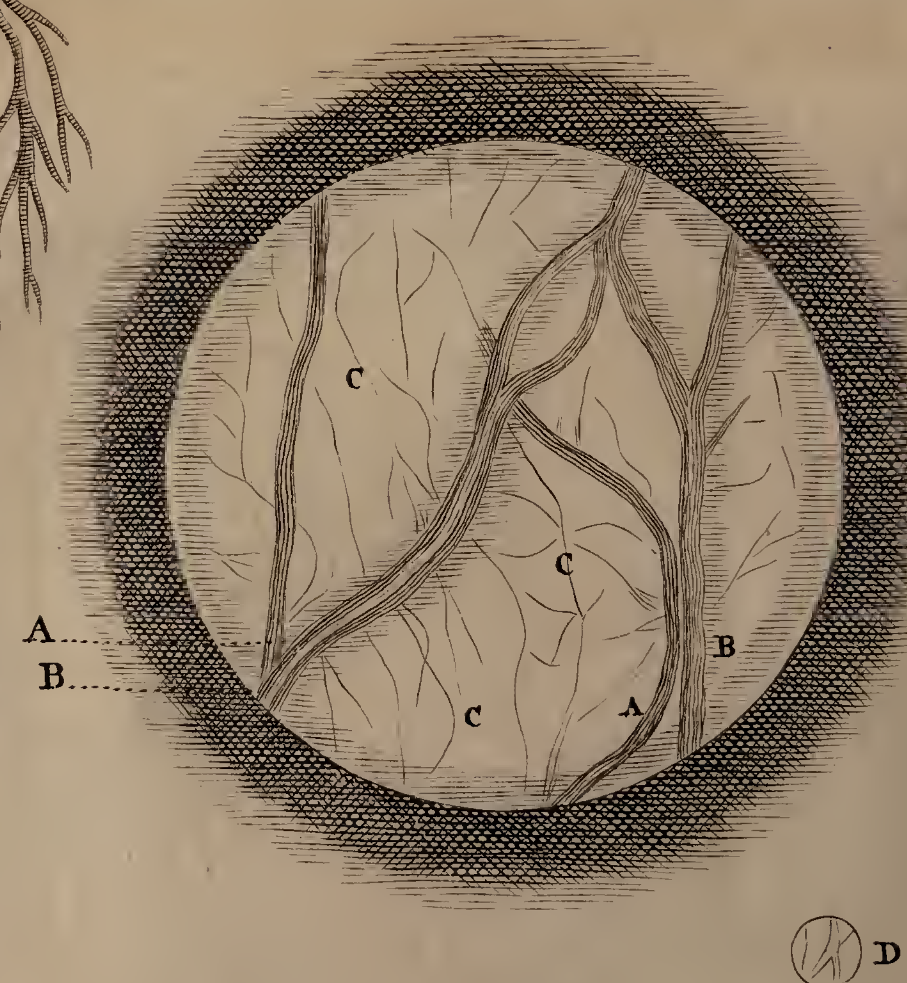

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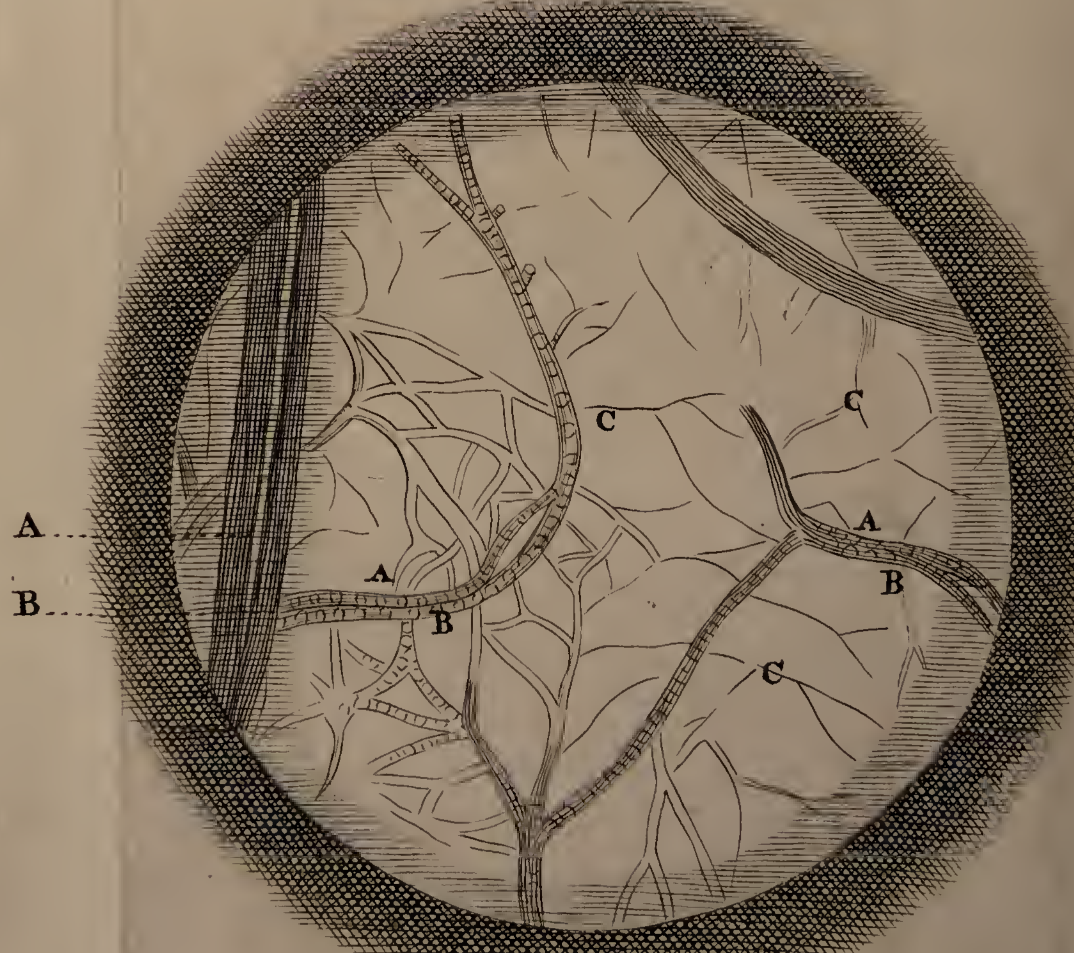


PLATE XV.

Fig. I. IS a Delineation of the Trunks and Ramifications of the Arteries diſſected from an adult human Body when diſplay'd and dried; as they are now to be ſeen in the *Muſæum* of the Royal Society.

1. The Trunk of the *Aorta* cut from the Baſis of the Heart.
2. The Part whence the *Coronaries* ariſe.
3. The Part where the *Canalis Arterioſus* of a *Fœtus* terminates.
4. The *Axillary* or *Subclavian* Arteries.
5. The *Carotid* Artery.
6. The *Cervical* Artery. *Note*, Theſe two laſt mentioned Arteries ariſe from the Trunk of the *Aorta*, which is different from what is uſual, and is to be ſeen in Fig. II. 5. 5. 6. 6.
7. The Arteries that carry Blood to the lower Parts of the Face, Tongue, adjacent Muſcles, and Glands.
8. The Trunk of the *Temporal* Artery; whence
9. A Branch goes to the *Parotid* Gland, and
10. Another to the *Temples* and Parts adjacent.
11. The *Occipital* Arteries.
12. The Arteries which convey Blood to the *Fauces*, *Epiglottis*, and adjacent Muſcles.
13. The Trunk of the *Carotid* Artery cut off before its *Contortion* in paſſing the Scull.
14. The Trunk of the Artery of the Arm, ſending Branches to the divers Muſcles and Parts thereof.
15. The Diviſion thereof at or below the Flexure of the Cubit.
16. The external Artery of the Cubit, which makes the Pulſe.
17. The Arteries of the *Hand* and *Fingers*.
18. The *Mammary* Artery.
19. The deſcending Trunk of the *Aorta*.

20. 20. The *Intercoſtal* Arteries.

PLATE XV.

21. The *Cœliac* Artery.
22. The *Hepatic* Artery.
23. The Trunk of the *Splenic* Artery.
24. The Trunk of the *Epiploic* Artery.
25. A Branch paſſing to the Bottom of the *Stomach.*
26. The ſuperior *Coronary* Branch of the *Stomach.*
27. 27. The ſuperior *Meſenteric* Artery.
28. 28. The *Emulgent* Arteries.
29. The inferior *Meſenteric* Artery.
30. 30. The *Lumbal* Arteries.
31. 31. The two *Spermatic* Arteries, call'd *Præparantes.*
32. The *Iliac* Artery.
33. The *Arteria Sacra.*
34. The internal *Iliac* Branch.
35. The external one.
36. The *Epigaſtric* Artery.
37. Branches paſſing to the Muſcles of the *Abdomen.*
38. 38. Arteries paſſing to the Muſcles of the Thigh and Leg.
39. The *Crural* Artery.
40. The *Umbilical* Artery, with thoſe of the *Penis.*
41. The *Crural* paſſing under the *Ham.*
42. The three Trunks of the Arteries of the *Leg.*
43. The Arteries of the *Foot* and *Toes.*

Fig. II. Shews the Trunks and ſome of the Ramifications of the Arteries of an adult human Body injected with Wax, to ſhew the Variety in Nature, and ſupply the Deficiency of theſe Parts in the foregoing Figure.

A. The Section of the *Aorta* at the Heart, ſerving the three *Semilunar Valves* already deſcribed.
B. A Portion of the *Arteria Pulmonalis.*
b. b. Its Diviſion before it enters the Lobes of the Lungs.
C. The deſcending Trunk of the *Aorta.*
D. D. The internal *Mammary* Arteries.
1. The Trunk of the *Aorta* cut off at the Baſis of the Heart.

2. The Trunk of the *Coronary* cut off.
3. The *Canalis Arterioſus* in a *Fœtus*.
4. The Trunk of the Subclavian Artery.
5. 5. The *Carotids*.
6. 6. The *Vertebrals*.
7. 7. The Arteries paſſing to the lower Parts of the *Face*, *Tongue*, *Muſcles*, and *Glands* adjacent.
8. 8. The Trunks of the *Temporal* Arteries, giving
9. 9. Branches to the *Parotid* Glands; and
10. 10. Others to the *Temples*, &c.
11. 11. The *Occipital* Arteries.
12. 12. The Arteries of the *Fauces*, *Gargareon*, &c.
13. 13. The *Contortions* of the *Carotid* Arteries as they paſs the *Baſis* of the Scull.
14. 14. Thoſe Parts of their Trunks which paſs on each Side of the *Sella Turcica*; whence divers ſmall Branches ariſe which help to compoſe the *Rete Mirabile*.
15. 15. The *Contortions* of the *Vertebral* Arteries.
16. 16. The *Vertebrals* as they aſcend on the *Medulla Oblongata* towards the annular Protuberance, or *Pons Varioli*.
17. 17. The communicant Branches of the *Carotid* and *Vertebral* Arteries.
18. 18. The fine Ramifications of the Arteries thro' the Brain diſplayed.

Fig. III. Shews the Appearance of the Circulation of the Blood as viewed thro' a *Microſcope* in the capillary Extremities of the Blood-Veſſels in the *Omentum* of a live Dog; and

Fig. IV. Is a View of the ſame Thing in a living Dog's *Meſentery*.

A. A. The Branches of the Arteries; and
B. B. The aſſociating Veins.
C. C. The capillary Branches, whereby they paſs from each other, and inoſculate at their Extremities.
D. D. The ſmall *Areæ* (here view'd with the *Microſcope*) as they appear to the naked Eye.

Plate XVI.

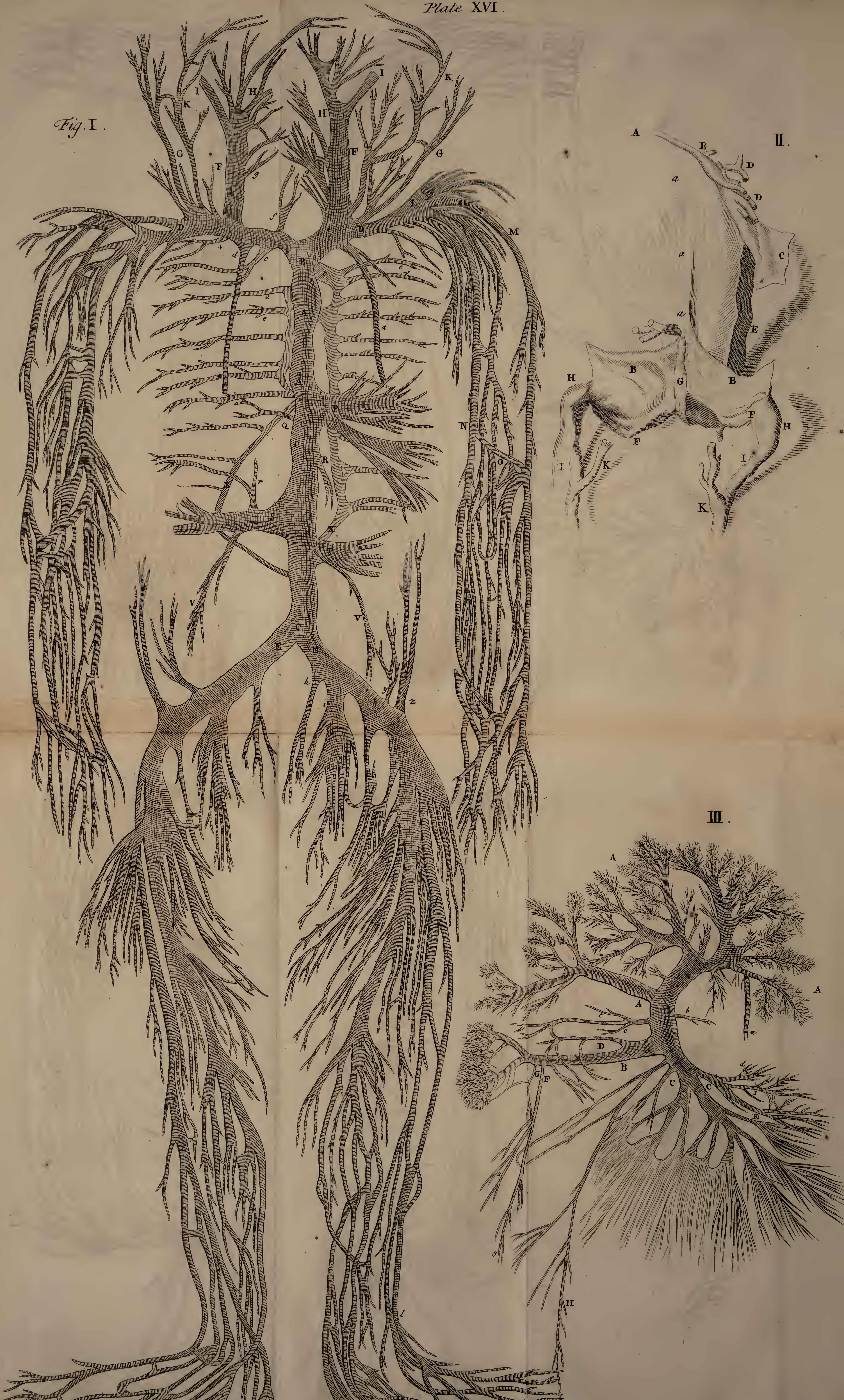


Fig. I.

II.

III.

PLATE XVI.

Fig. I. IS a Delineation of the Trunks of the *Vena Cava* with their Branches, diſſected from an adult human Body, diſplayed and dried in the Repoſitory of the *Royal Society*, as they are yet there to be ſeen.

A. A.	The Orifice of the *Vena Cava.*
B.	The ſuperior or deſcending Trunk of the *Cava.*
C. C.	The inferior or aſcending Trunk.
D. D.	The Subclavian Veins.
a.	The Orifice of the Coronary Vein.
b.	The *Azygos* with its Branches going to the Ribs *e. e.*
c.	The ſuperior *Intercoſtal.*
d. d.	The internal *mammary* Veins.
E. E.	The *Iliac* Branches.
F. F.	The internal *Jugulars.*
G. G.	The external *Jugulars.*
H. H.	The Veins from the Lower Jaw and its Muſcles.
I. I.	The Trunks of the internal *Jugulars* cut off at the Baſis of the Scull.
f.	The Veins of the *Thymus* and *Mediaſtinum.*
g. g.	The Veins of the *Thyroid* Glands.
h.	The *Vena Sacra.*
i.	The internal *Iliac* Branch.
k.	The external one.
K. K.	The *Occipital* Veins.
L.	That Part of the *Subclavian* call'd the *Axillary* Vein.
M.	The *Cephalic* Vein.
N.	The *Baſilic.*
O.	The *Median.*
P.	The Trunk of the *Hepatic* Veins.
Q.	The *Phrenic* Vein on the Left Side.
R.	The ſame on the other Side.
r.	A Vein from the Left *Renal Gland* and Parts adjacent.
S.	The Left *Emulgent* Vein.

T. The Right one, lower than the Left here, which is not uſual.

V. V. The two Spermatic Veins.

X. X. The two communicant Branches between the deſcending Trunk of the *Cava* and *Vena Azygos.*

y. A Vein which brings Blood from the Muſcles of the *Abdomen* into the external *Iliac* Branch.

Z. The *Epigaſtric* Vein of the Right Side.

l. l. The *Saphena* Vein.

†. The Part of the Left *Subclavian* where the *Thoracic* Duct enters it, and diſcharges its *Chyle* and *Lympha.*

Theſe are the principal Trunks of the Veins; as for the more minute Branches, a tedious Deſcription of them is not to be here expected, and is only well to be underſtood from an actual View of them in a Subject under Diſſection.

Fig. II. Repreſents ſome of the large Trunks of the Veins and their *Sinus's* within the Scull, with the Beginnings of the internal Jugulars fill'd with Wax, and dried, together with the *Falx,* &c. which could not be ſhewn in the laſt Figure.

A. The Extremity of the *Falx* cut from the *Criſta Galli.*

a. Its low *Limbus* that touches the *Corpus Calloſum,* dividing the two Lobes of the Brain.

B. B. The ſecond Proceſs of the *Dura Mater* between the *Cerebrum* and *Cerebellum.*

C. A Portion of the *Dura Mater* remaining to the longitudinal *Sinus.*

D. D. Several Trunks of the Veins cut off before they enter.

E. E. The longitudinal *Sinus's.*

F. F. The two lateral *Sinus's.*

G. The 4th *Sinus.*

g. The Veins from the *Plexus Choroides.*

H. H. The *Bulbi* or *Diverticuli* at the Beginning of

I. I. The internal Jugular Veins.

K. K. The Veins which bring Blood from the Lower Jaw and Parts adjacent.

Fig. III. The Trunks of the *Vena Portæ* diſſected and diſplay'd; done from the original Scheme in the Repoſitory of the *Royal Society.*

A. A. A. The Branches of the *Vena Portæ* freed from the Liver.

B. The *Splenic* Branch.

C. C. The *Meſenteric* Branches continued from the *Inteſtines.*

D. The ſuperior Coronary Vein of the Stomach on the Left Side.

E. The inferior one on the Right Side.

F. The ſame on the Left Side removed from their proper Situations.

G. The Vein call'd *Vas breve.*

H. The Hæmorrhoidal Vein, which here diſcharges itſelf into the Left *Meſenteric* Branch, tho' uſually it ends in the *Splenic* B.

a. The Umbilical Vein.

b. The *Vena Pancreatica*, which alſo receives Branches from the *Duodenum.*

c. c. The right ſuperior Gaſtric *Coronary* of the Stomach.

d. The *Vena Duodeni.*

1. The Right,
2. The Left,
3. The Middle, } *Epiploic* Branches of the inferior Coronaries of the Stomach.

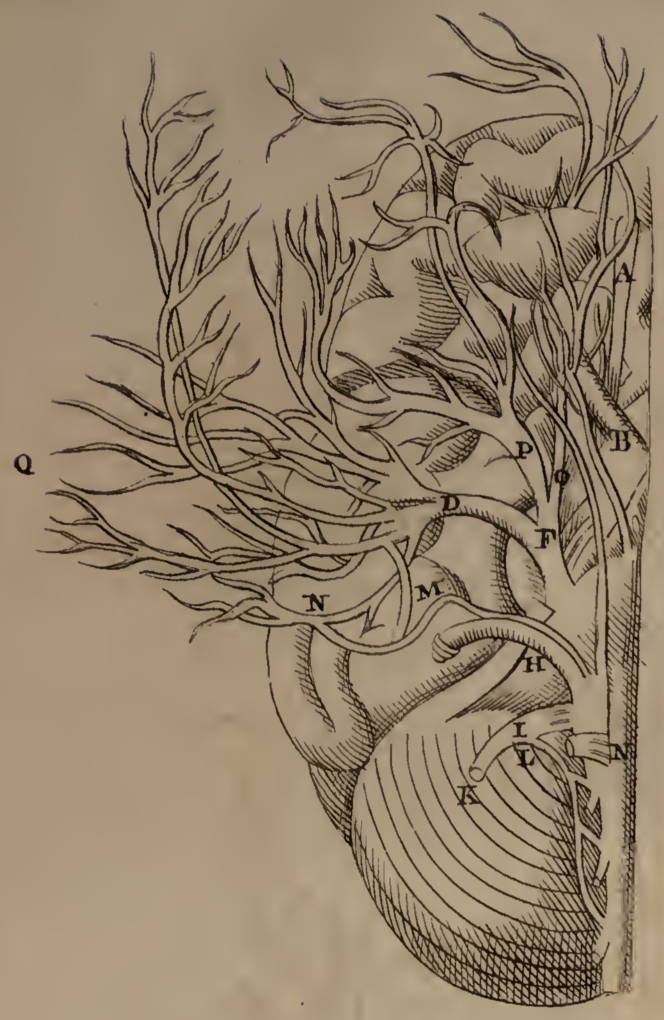
N. B. Tho' theſe Figures of the Veins were actually drawn from the Life, and differ conſiderably from many others extant, yet we are not to ſuſpect the Truth and Goodneſs of all others; ſince Nature is not obliged to be the ſame in her

her Operations, but in different Subjects is often pleaſed to vary the Humour and Method of Procedure.

PLATE XVII.

Plate XVII.

II.



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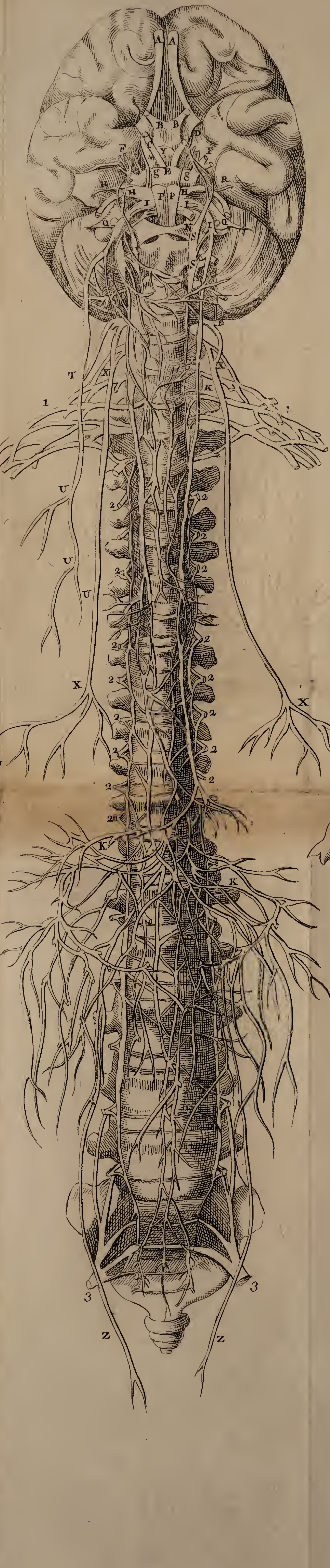

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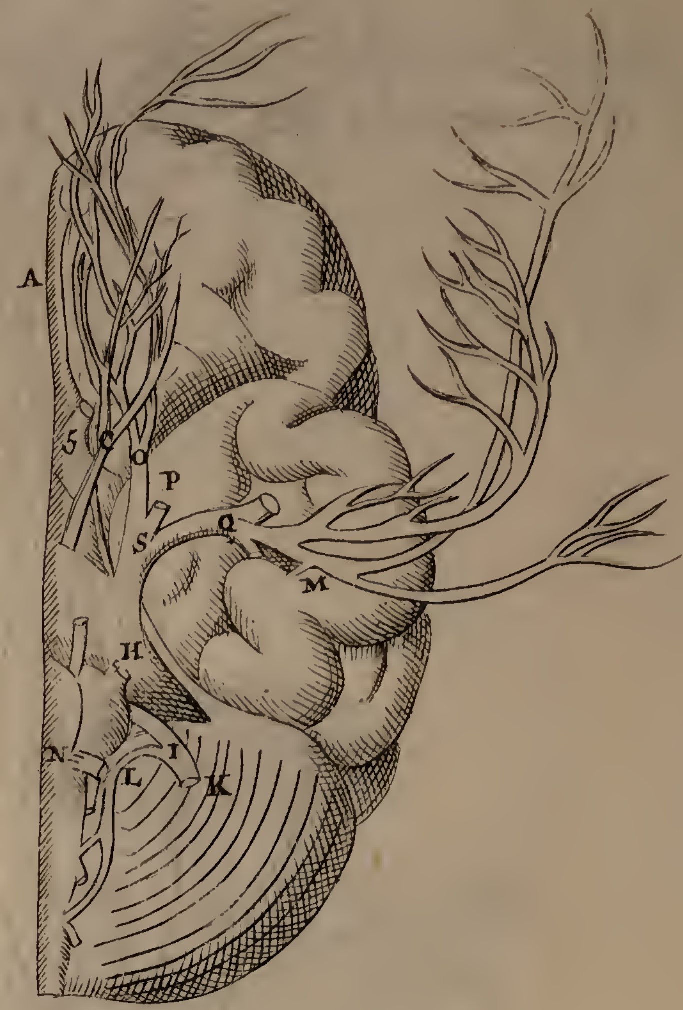

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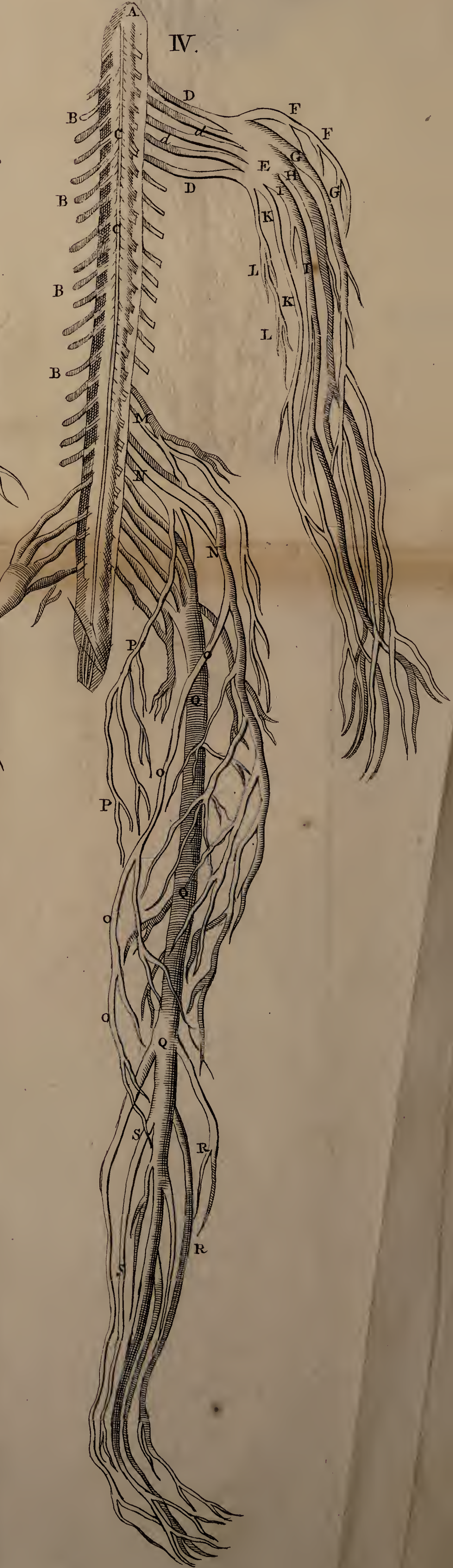

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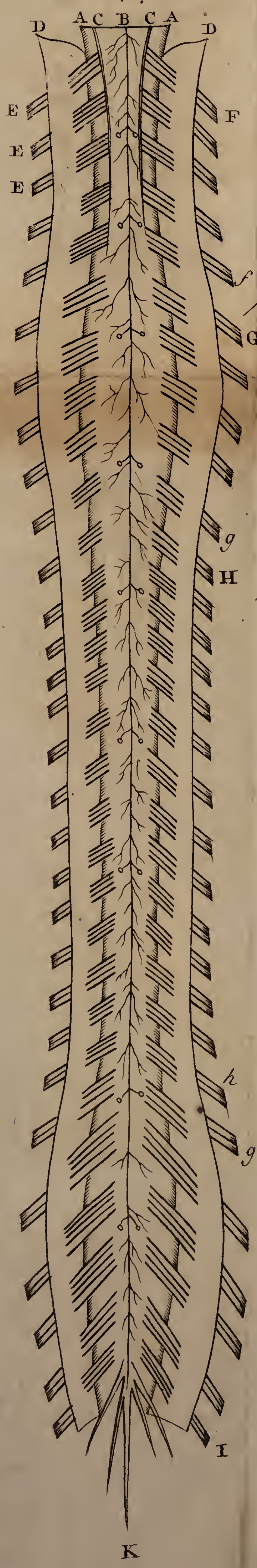

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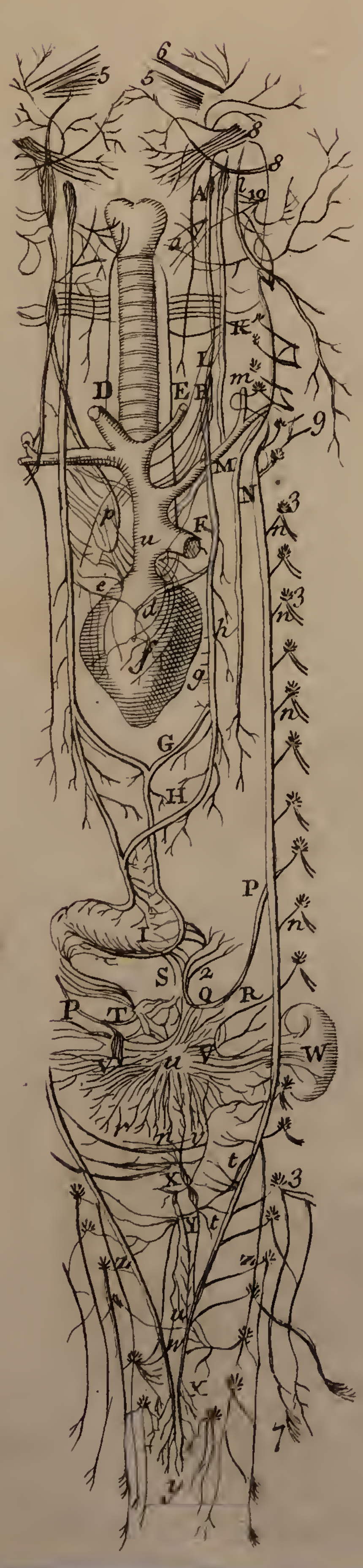

PLATE XVII.

Fig. I.	SHews the *Origin* of the *Nerves* from the *Baſis* or Under-part of the Brain, and the Compages of the nervous Syſtem within the Trunk of the Body.
A. A.	The *Olfactory* Nerves.
B. B.	The *Optic* Nerves cut off.
C. C.	The Pair call'd the *Motores Oculorum.*
D. D.	The *Pathetic* Nerves.
E.	The *Proceſſus Annulares.*
F. F.	The three Branches of the fifth Pair.
G. G.	The ſixth Pair.
H. H.	The Portions of the *Auditory* Nerves.
I. I.	The Origin of the eighth Pair, or *Par Vagum.*
K. K.	The large Trunks thereof.
M. M.	The *Recurrent* Nerves.
N.	The Left Nerve of the ninth Pair.
O.	The Right Nerve thereof.
P. P.	The *Corpora Pyramidalia.*
Q. Q.	The tenth Pair cut off according to *Lanciſi.*
R. R.	The Extremities of the *Intercoſtals*, or eleventh Pair.
S. S.	The great Trunks of theſe Nerves.
T. U.	The *Acceſſory* Nerve of the eighth Pair.
X. X.	The Nerves of the *Diaphragm.*
Y.	The inferior Aperture of the *Infundibulum.*
Z. Z.	The Nerves which go to the *Teſtes*, *Uterus*, &c.
1. 1.	The Nerves which go to the Arms.
2. 2.	The Communications of the *Vertebral* and *Intercoſtal* Nerves.
3. 3.	The *Crural* and *Sciatic* Nerves cut off.
Fig. II. III.	From *a* to *k* the References are the ſame as in the foregoing Figure.
L. L.	The *Acceſſory* Nerve of the eighth Pair.
M. M.	The *Chorda Tympani.*
N. N.	The Communication of the *Portio Dura* of the *Auditory* Nerve with the lower *Maxillary* Nerve.

O. O. The *Ophthalmic* Nerve.
P. P. The ſuperior *Maxillary* Nerve.
Q. Q. The inferior *Maxillary* Nerve.
Fig. IV. Shews the *Spinal Marrow* and the *Nerves* proceeding therefrom.
A. The Beginning of the *Spinal Marrow* near the Scull.
B. B. B. B. A Series of nervous Branches or Threads paſſing from the *Medulla* between the *Vertebræ.*
C. C. C. The Body of the *Medulla* or Marrow, as it deſcends the Spine.
D. *d. d.* D. Branches which ariſe from three Pair of the Neck and two of the Breaſt, proceeding to the Arms and Hands.
E. The *Plexus* or Commixture of theſe Nerves.
F. F. The firſt Pair of the Hands.
G. G. The ſecond Pair.
H. H. The third Pair.
I. I. The fourth Pair, and bigger than the reſt.
K. K. The fifth Pair.
L. L. The ſixth Pair, lying juſt under the Skin.
M. The firſt *Crural* Nerve.
N. N. The ſecond *Crural* Nerve.
O. O. O. The Branch thereof which accompanies the *Saphæna* Vein.
P. P. The third *Crural* Nerve.
Q. Q. Q. The fourth and greateſt of all.
R. R. The external Branch.
S. S. The internal Branch.
Fig. V. Shews more largely and accurately the Spinal Marrow taken out of its bony Chanel, and diveſted of the Membrane cloathing it, that the Beginnings and Productions of all the *Vertebral* Nerves might be ſeen together.
A. A. The Top of the Spinal Marrow cut off from the *Medulla Oblongata.*

B. The Spinal Artery, made up of ſeveral Twigs from the *Aorta*, entering between the *Vertebræ*.

C. C. The Spinal Nerve coming from the fifth or ſixth *Vertebra* of the Neck to the Beginning of the *Par Vagum*.

D. D. Portions of the Membrane cloathing the Marrow diſſected and rolled off.

E. E. E. The Spinal Nerves ſent out of the Marrow on each Side by Pairs to the Number of 30.

F *f*. The Nerves of the Neck.

G *g*. The Nerves deſtined for the Shoulder and Arm.

H *h*. The Nerves going out about the Back and Loins.

I. *i*. The Nerves which go out for the Thighs.

K. Nerves going out of the *Os Sacrum*.

Fig. VI. Is a compendious View of the Origin, Ramifications, and *Plexus* in the nervous Syſtem, form'd eſpecially by the *Par Vagum*, the Intercoſtals, *&c.* Nerves.

A. The Upper,
B. The Lower } *Plexus* of the *Par Vagum*.

a. A Branch ſent to the Upper-part of the *Trachea*.

C. Several Branches going to the Heart, *Pericardium*, and *Plexus Nervoſus* at the Heart.

D. The Recurrent Nerve ſpringing from the *Plexus* B on the Right Side; and

E. From the Body of the Nerve itſelf on the Left Side.

F. The *Plexus Nervoſus* of the Heart.

d. e. f. Several Branches ſpent on the *Heart*, *Lungs*, &c.

G. H. Two Branches into which the *Par Vagum* divides itſelf on each Side.

g. h. Branches ſent to the *Lungs*, *Gullet*, &c.

I. The *Plexus Nervoſus* formed on the Stomach by the united Branches of the *Par Vagum*, and the very minute Ramifications in which they there end.

K. A *Plexus* or *Ganglion* in the Neck, formed by the Branches of the fifth and ſixth Pair (marked 5 and 6 at their Origin.)

L. A great Branch ſent to the *Plexus Nervoſus* of the Heart.

M. The Nerve of the *Diaphragm.*

N. The *Intercoſtal* Nerve, which, in its Paſſage thro' the *Thorax*, admits Branches from the *Vertebral* Nerves *n. n. n. n.*

P. A Branch ſent from the Left *Intercoſtal* to

Q. The Leſſer *Meſenteric Plexus* on the Left.

R. Other Branches ſpringing from the *Intercoſtal* Nerve.

S. The Nerves which communicate between the *Stomachic* and Left *Meſenteric Plexus.*

T. The *Meſenteric Plexus* on the Right.

V. V. The Great *Meſenteric Plexus*, from whoſe Middle *u* proceed vaſt Numbers of Twigs to the Inteſtines.

W. The Kidney, which alſo receives Nerves from the ſaid *Plexus.*

X. Y. Two other Leſſer *Plexus* of the *Meſentery* placed below the Greater.

Z. Z. Small Nerves going to the *Penis.*

r. r. The Ramification of Nerves among the Inteſtines.

t. t. Nerves going from the *Intercoſtals* to the Lower *Plexus* of the *Meſentery.*

w. Nerves which run acroſs and knit together the *Intercoſtals* in the bending of the *Os Sacrum.*

x. The Inclination of the *Intercoſtals* to each other where they begin to ramify; and

y. The fine Fibres thereof diſtributed to the *Sphincter* of the *Anus*, where theſe notable Nerves end.

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